

# THE CONTRACT JOURNAL

INCORPORATING

THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

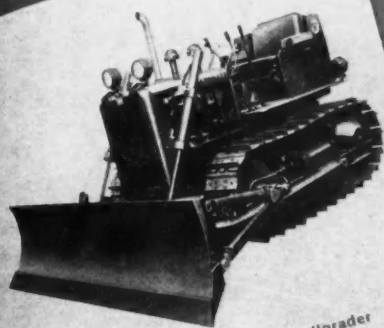
No. 4,278 83rd YEAR

THURSDAY, JUNE 22, 1961

PRICE 2/-

EQUIP

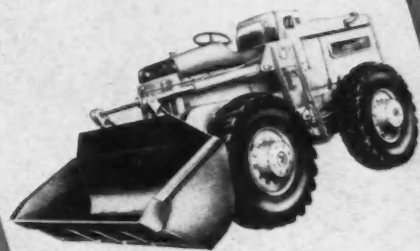
The finest  
on tyres  
and tracks



International B-8G-2 Bulldozer

**International**  
CONSTRUCTION  
EQUIPMENT

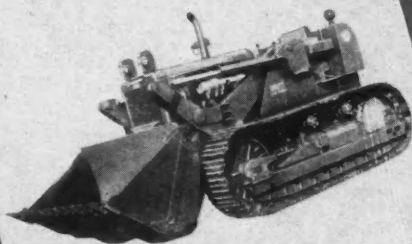
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International Mough BM-70 Payloader

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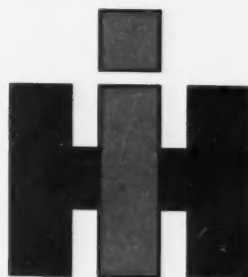
B-20K-3 International Drott (4-in-1)

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International  
Wain-Roy  
Model W/R-1  
Back Hoe



**INTERNATIONAL  
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B-6K-3 International Drott (4-in-1)

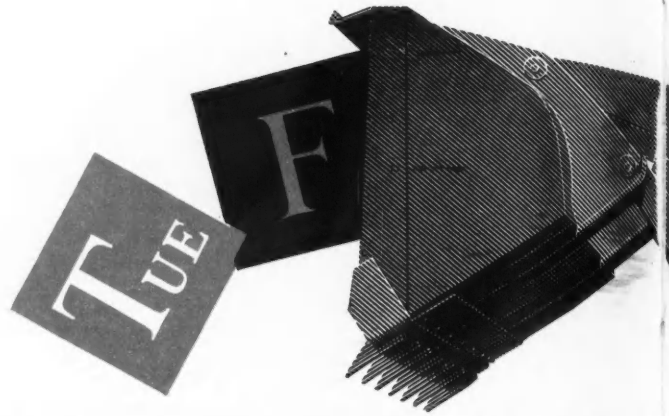
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INTERNATIONAL HARVESTER COMPANY  
OF GREAT BRITAIN LIMITED  
FARMER HOUSE - 259 CITY ROAD

Boughton PL-20R Sideboom





## BONUS DAYS FOR YOU





on every contract



... here's the case for **CASE**

#### CASE EQUIPMENT

Faster, easier operating cycle for bonus output, unique 12-months-guaranteed Terramatic drive and proved Case reliability are featured in Case crawlers — years ahead in design for years to come.

#### CASE SERVICE

With unrivalled Case service, fast on the job equipment stays on the job. Automatic free service at 50, 250 and 500 hours; regular free inspection and advice; service flying squad for emergencies; in a word—service!

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Behind every Case machine is over 100 years of making quality machinery backed by prompt efficient service. Before you move another cube yard write or phone for further details of Case equipment.

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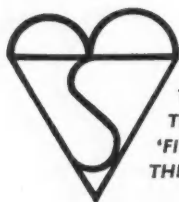
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**WEDNESBURY**

**Polythene tube (to B.S. 1972)**

*endorsed with the  
'KITE MARK'  
of the British  
Standards  
Institute*



THE SIGN  
THAT MEANS  
'FIT FOR  
THE JOB'

50, 100, 200, 250, 500, 750 and 1,000  
feet coils, in  $\frac{1}{8}$ ",  $\frac{3}{8}$ " and 1" heavy and  
normal gauges.

50, 100, 200, 250 and 500 feet coils in  $1\frac{1}{8}$ "  
and  $1\frac{1}{2}$ " normal and heavy gauge and 2"  
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Also available on Reels up to the following  
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All Wednesbury Tubing to BS 1972 carries the  
"Kite Mark" insignia of the British Standards Institute,  
which ensures that the tube consistently maintains the  
requirements of that standard, and such tube may be  
examined by the inspectors of the B.S.I. for compliance  
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Additionally, Wednesbury have installed electronic  
monitoring equipment for the detection and elimination  
of any process or material faults which may occur during  
manufacture.

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The WEDNESBURY TUBE COMPANY LIMITED  
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Telephone: Bilston 41133 (9 lines)  
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And Wednesbury stock a complete range of fittings up  
to 1" heavy — Polythene to Polythene and Polythene to  
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There is a prompt and efficient delivery service to all  
parts of the country.



# PARKER PAVER

Built around a standard British tractor, the Parker Paver is really mobile with a job-to-job self-travel speed of 12 m.p.h. and an inside turning circle of only 5', which means it can operate almost anywhere!

With top laying capacity of 80 tons an hour, and laying speeds up to 45' per minute—the Parker Paver lays ALL road courses, from tar and bituminous materials to non-bituminous base courses. Depths adjustable from 1½" to 6", width from 3' to 12' increased by increments of 1½" from 8'. The saw-toothed cutter-compactor bar and fully-floating heated screed, gives superior ironing and finishing action.

Needs no more room than a medium-sized truck; saves use of low-loaders. The Parker Paver cuts road laying costs all round.

Write for Fully illustrated details in Publication No. 580.

**Parker Proved Performance Pays!**

*Drive it to the site . . . do a  
first-class laying job when it's there*

FREDERICK  
**PARKER**  
LIMITED

**VIADUCT WORKS LEICESTER**  
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# YOU



...cannot afford  
to overlook the

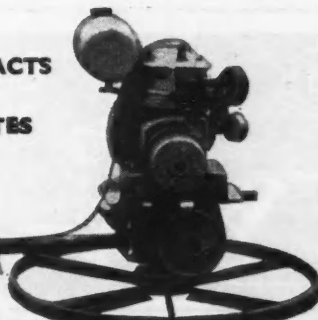
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FLOAT

THE FLOAT WITH ALL THE ADVANTAGES, INCLUDING INTERCHANGEABLE  
DISC AND TROWEL ASSEMBLIES, POWER TAKE-OFF, etc.  
NOT AVAILABLE ON ANY CONTEMPORARY MACHINE

*And all British too!*

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FOR ALL  
FLOORING CONTRACTS  
AND  
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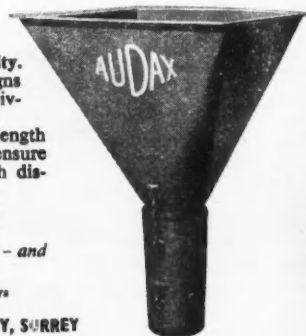
## ARTHUR FOSTER CONSTRUCTIONAL ENGINEERS LTD.

STEVENAGE ROAD, EAST HAM, E.6

**SPECIALIST IN HANDLING  
AND LIFTING ALL TYPES OF  
PLANT AND MACHINERY**



## ELEPHANT HEADS and TRUNKING



### ELEPHANT HEADS:

Standard Head 10 cu. ft. capacity.  
Made in various sizes and designs  
to suit capacity, position of receiving  
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Hopper is transformed over length  
from square to round to ensure  
smooth flow of mix and at high dis-  
charging rate with no fouling.

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*The finest on the market today - and  
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Underwater  
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*For Sale or Hire*

**Model D40 1½" capacity**

Shears: 1½" Rounds  
1½" Squares  
2½" x 1" or 3" x ¾" Flats  
2" x 2" x ¾" Angle

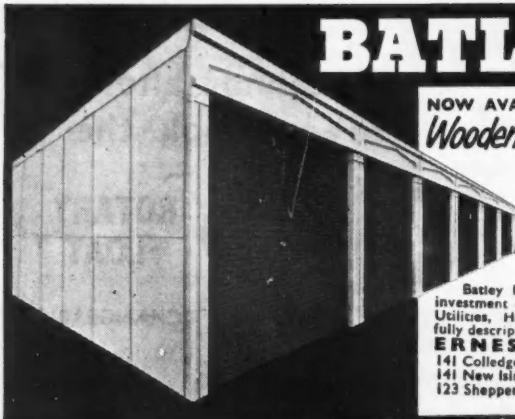
Capacity based on 28 ton tensile strength  
Single or continuous mechanism  
Cutting speed: 40 Strokes per minute  
Weight: 11½ cwt.

Purchase Prices: 5 h.p. Electric motor £375. Petter AVA 2 Diesel engine £536

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## BATLEY MULTIPLE CONCRETE GARAGES

NOW AVAILABLE WITH

*Wooden Roller Shutter Doors!*

- Any number in one block.
- Free advisory service available.
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- Purchased by over 300 Councils.
- 3 years' Guarantee.
- Attractive Deferred Terms.

Batley Multiple garages provide an unequalled investment — ideal for Housing Estates, Public Utilities, Hotels, Private lock-ups, etc. Send for fully descriptive Brochure.

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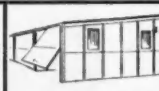
### MODELS FOR EVERY SITE



For sloping sites garages can be stepped



Back to back in one block



Roof slopes to front or rear



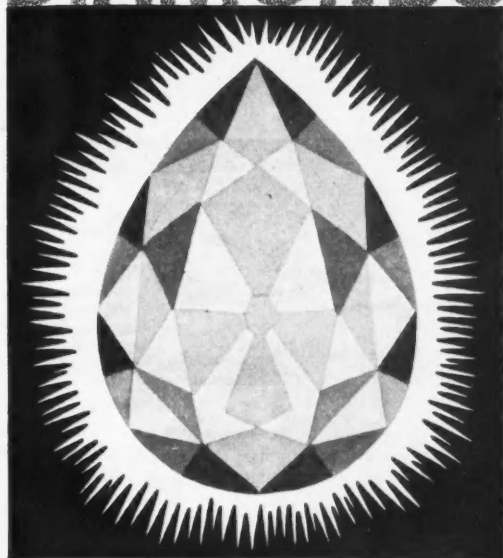
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These 'diamonds', the pattern formed by 'Plastella' Chain Link Fencing, are protected from rust and corrosion by a plastic coating over galvanised wire. It means a lasting long life to each link and a trouble-free job for ever. Available in Green or Black.

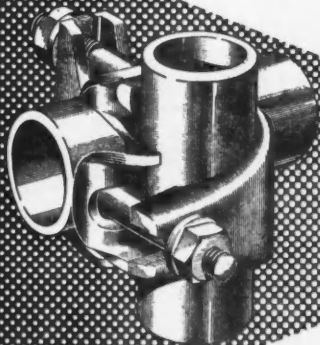
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### BSS SCAFFOLD·FITTINGS



Safely, quickly erected at low cost.  
High tensile resistance, rustproof,  
and no loose parts.

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**Scaffolding Limited**

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## These high-performance machines mean

## more production for you!



### ◀ LW TOURNAPULL

LeTourneau-Westinghouse self-powered scrapers with 9, 20, 29 yd heaped capacities; 430, 290, 143 hp diesel engines; speeds up to 30 mph.

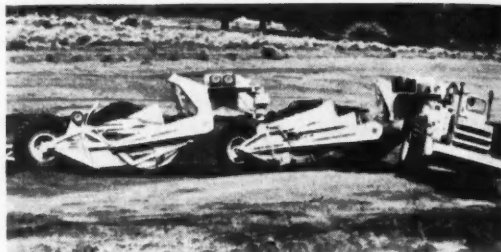
### LW TANDEMS ▶

You get 100% more capacity at only about 30% more cost! With LW electric-control system you can use two scrapers behind any LW prime-mover, move up to 58 yd per trip.



### ◀ LW SPEEDPULL

For top performance on long-haul assignments. 276 hp, 20 yd capacity, 37.7 mph speeds, Hydrair suspension, best power-to-weight ratio.



### LW REAR-DUMPS ▶

11, 22, 35 ton capacities, up to 430 hp. All models make non-stop U-turns in own length. Simple design (no frame, no springs) cuts maintenance. Rear-Dump is interchangeable with LW scrapers.



### ◀ LW HAULPAK TRUCKS

Five sizes, 22 to 60 tons, up to 550 hp. Advantages include: deep "V" body, Hydrair suspension, short wheel base, LW power-transfer differential. 90 ton bottom-dump also available.



### LW MOTOR GRADERS ▶

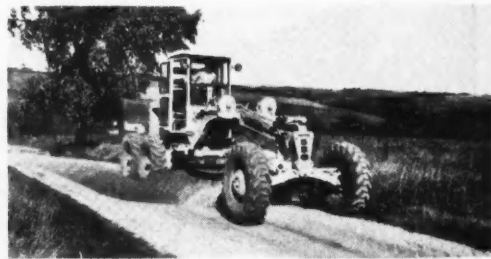
85, 100, 115, 125 and 160 hp LW motor graders have 8 forward speeds to 26 mph, 4 reverse to 13 mph, 3 optional extra-slow creeper gears. 145 and 190 hp POWER-Flow models are equipped with torque converter. All have self-adjusting brakes.



### ◀ LW TOURNATRACKTOR

218 hp. Rubber-tyred speeds forward to 18.5 mph; reverse to 6.2 mph. Accomplishes twice as much as crawlers on 85% of your tractor jobs.

*Ask us for complete information on the LW machines that fit your needs.*



Tournapull, Speedpull, Tuornatractor, Haulpak, Hydrair, POWER-flow—Trademark Reg. U.S. Pat. Off. LA-2381-DC-1c)



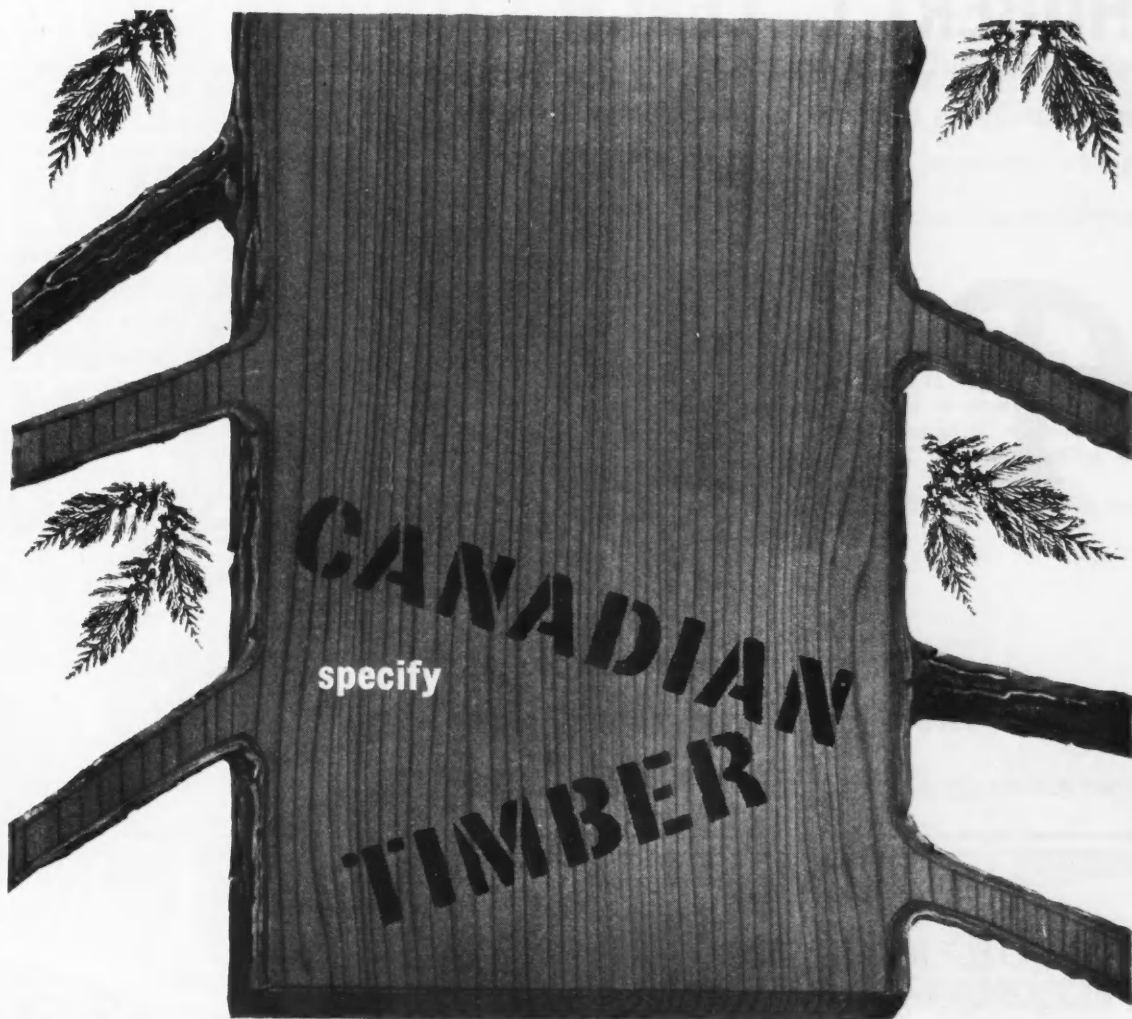
# JACK OLDING

HATFIELD · HERTS Telephone: HATFIELD 2333

JACK OLDING & CO. (SCOTLAND) LTD.,  
COUPAR ANGUS · PERTSHIRE

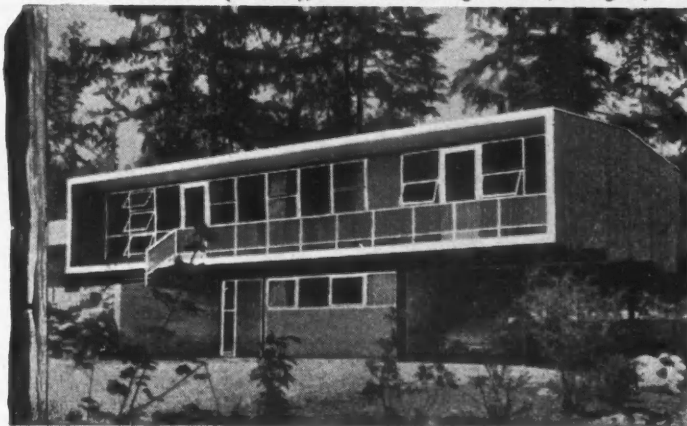


LeTourneau-Westinghouse Company Export Division, Peoria, Illinois, U.S.A.  
(subsidiary of Westinghouse Air Brake Company)



## Western red cedar

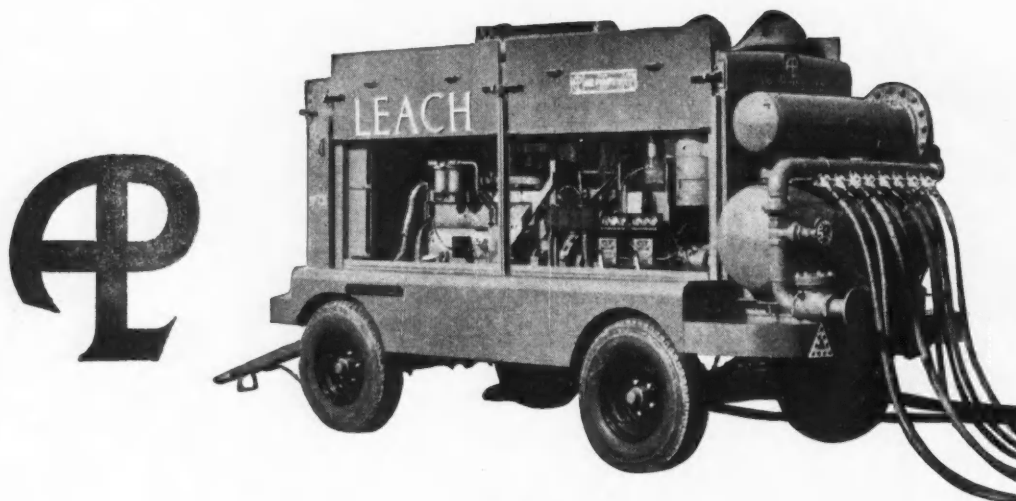
With a tree of great age (1,200 years is not unusual) a timber of enormous resilience may be taken for granted. Yet Western Red Cedar is also the lightest of all commercial softwoods and is unsurpassed in its easy workability. Free from pitch or resin, highly resistant to decay, acids and alkalies, handsome both in texture and colour—few timbers combine so many rare qualities, or provide a better material for so many uses. Roof decking, exterior cladding, interior panelling, door and window framing, moulding and partitioning, are just some examples. For information: The Commercial Secretary (Timber), Office of the High Commissioner for Canada, No 1 Grosvenor Square, London W1, or The Canadian Trade Commissioner (Timber), 144 West George Street, Glasgow, C2.



West Coast woods  
give shape  
to an exciting  
architectural design

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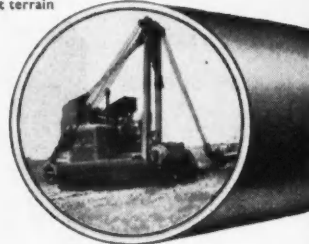
Protective coating  
prior to laying



Lining up  
prior to welding



Bending en route  
to suit terrain



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A member of the John Brown Group

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Telephone: AMBASSADOR 8080. Telex: 25356 Cables: CIVANIC, LONDON. also at Manchester, Melbourne and Tehran

Through built up areas and restricted wayleaves CJB undertake the laying of high pressure welded steel pipelines and use time-saving equipment which is unique in this country. Mechanised ditching, welding, field bending and line priming and wrapping are all parts of CJB facilities which make for a more efficient operation and higher daily progress. CJB can point to many hundreds of miles of pipelines successfully laid in Britain and a record of avoiding shut-downs at difficult "crossings" which is well worth examination.



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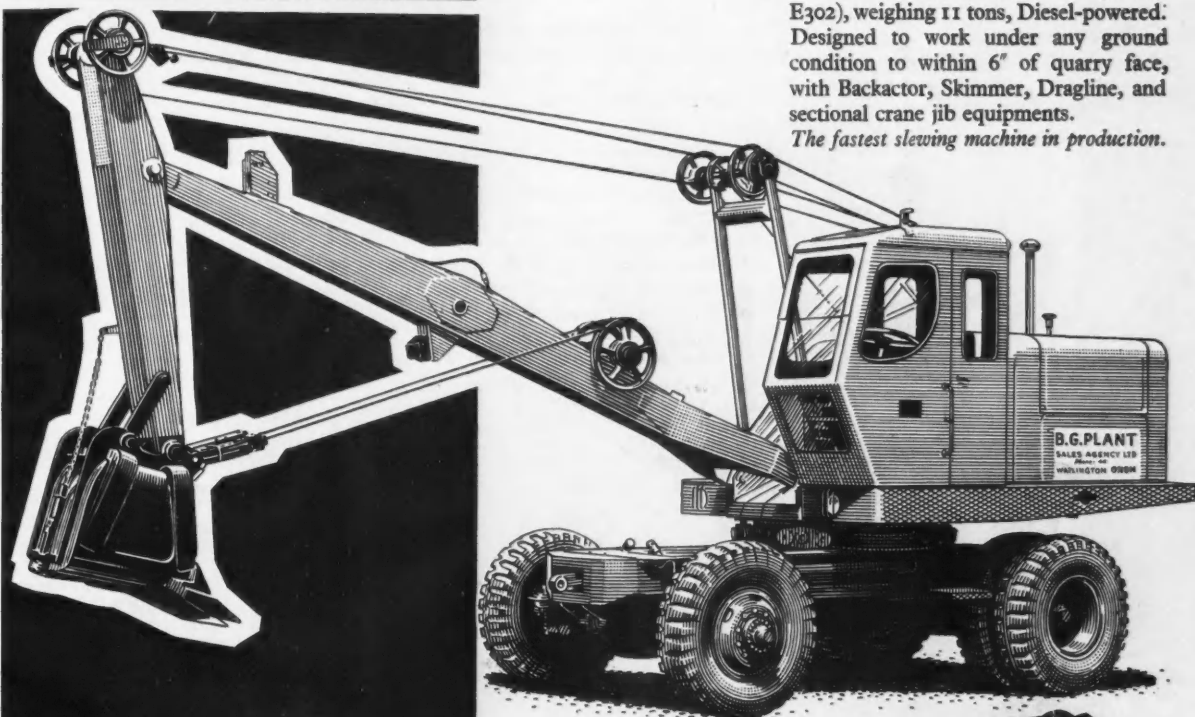
become agents for new

# RUSSIAN

*machines*

B.G. PLANT LTD. have pleasure in introducing two NEW RUSSIAN Machines exported by v/o MACHINO-EXPORT. These units of Russian Contractor's Plant are now held at WATLINGTON (Oxfordshire) Depot.

- 1 The Truck-mounted Excavator (Model E302), weighing 11 tons, Diesel-powered. Designed to work under any ground condition to within 6" of quarry face, with Backactor, Skimmer, Dragline, and sectional crane jib equipments. *The fastest slewing machine in production.*



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Service and Spares throughout  
U.K. and Eire.

Detailed literature supplied on request,  
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(Sales Agency) LIMITED

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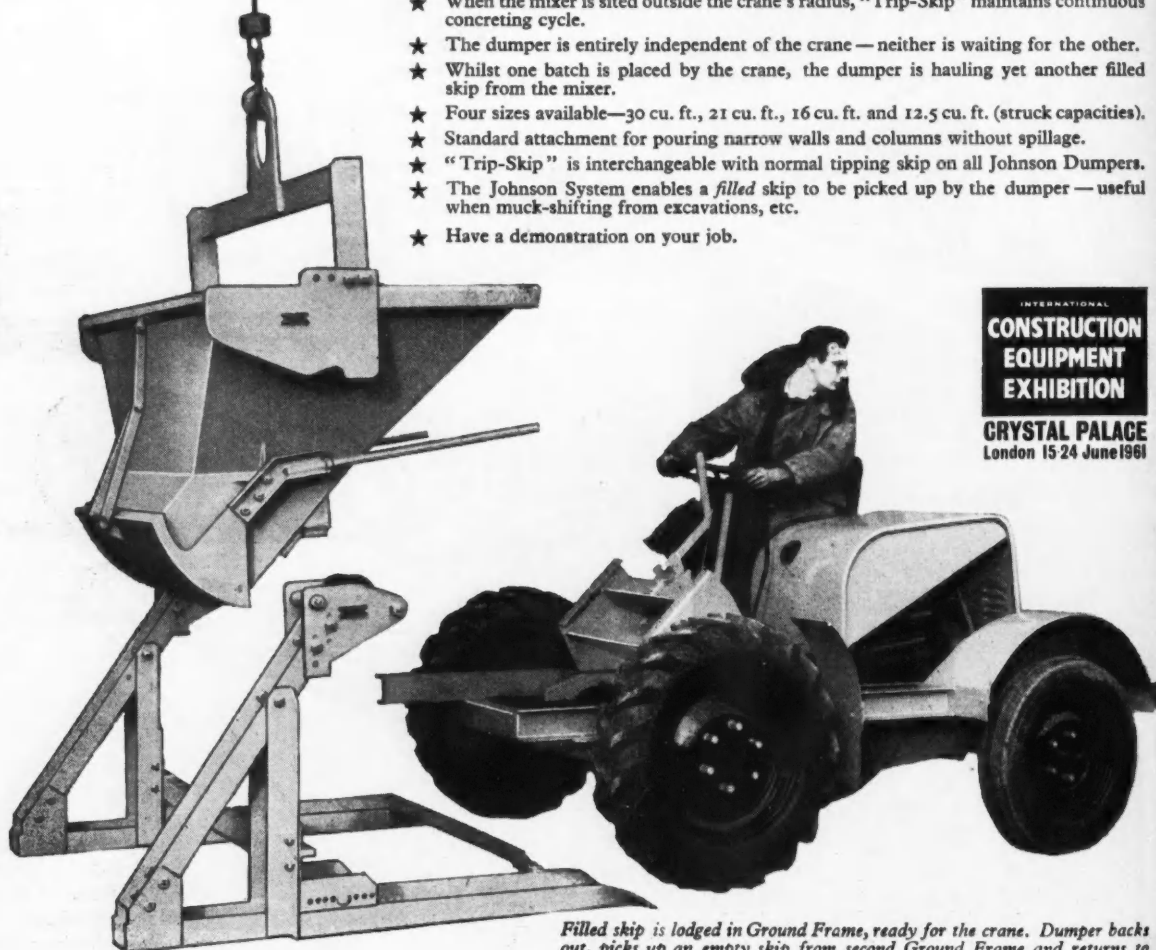
# JOHNSON 'TRIP-SKIP'

## MULTI-SKIP HANDLING WITH STANDARD JOHNSON DUMPERS

The "Trip-Skip" gives maximum flexibility to site organisation. A simple sequence can be established whereby the dumper and crane work as a team — neither waiting for the other.

Both full or empty skips can be collected or deposited by the dumper.

- ★ When the mixer is sited outside the crane's radius, "Trip-Skip" maintains continuous concreting cycle.
- ★ The dumper is entirely independent of the crane — neither is waiting for the other.
- ★ Whilst one batch is placed by the crane, the dumper is hauling yet another filled skip from the mixer.
- ★ Four sizes available—30 cu. ft., 21 cu. ft., 16 cu. ft. and 12.5 cu. ft. (struck capacities).
- ★ Standard attachment for pouring narrow walls and columns without spillage.
- ★ "Trip-Skip" is interchangeable with normal tipping skip on all Johnson Dumpers.
- ★ The Johnson System enables a *filled* skip to be picked up by the dumper — useful when muck-shifting from excavations, etc.
- ★ Have a demonstration on your job.



INTERNATIONAL  
**CONSTRUCTION  
EQUIPMENT  
EXHIBITION**  
**CRYSTAL PALACE**  
London 15-24 June 1961

*Filled skip is lodged in Ground Frame, ready for the crane. Dumper backs out, picks up an empty skip from second Ground Frame and returns to mixer for another batch.*

# JOHNSON

## QUALITY PAYS

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**DIG  
DEEPER  
FASTER  
CLEANER**

**WITH**





# EXCAVATED

Excavation with the **JCB 4** on a new 12 storey block of flats in Rome. The foundation depth is 18 feet and requires the removal of 20,000 cu-yards of material.



BY THE

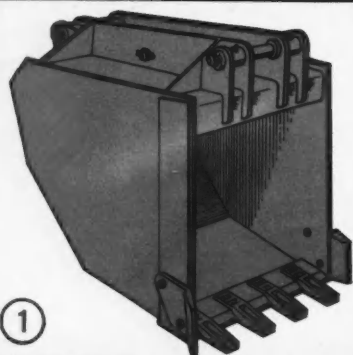
**JCB** 4



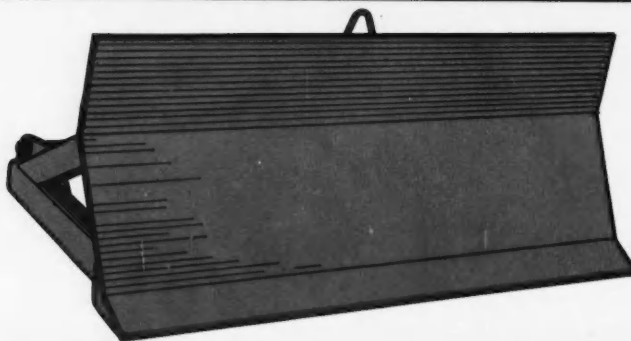
equipments

# FOR THE VERSATILE

# JCB 4



1



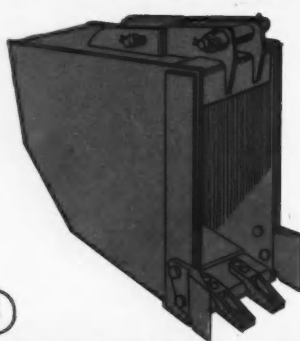
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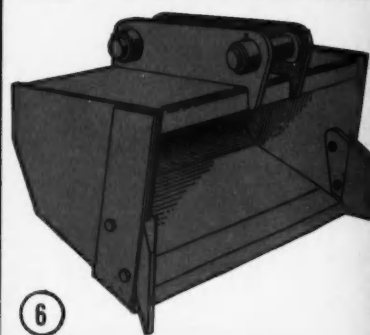
3



5



4



6

1. 3 IN 1 BUCKET  
Back-Acter Face Shovel Square Holer
2. BULLDOZER BLADE  
The Bulldozer Blade fits over the standard bucket and is used for back-filling and site levelling
3. ROOTER TOOTH  
The Rooter is a most powerful piece of equipment, used principally for demolition and tree rooting
4. 18" EXCAVATOR BUCKET  
A range of Excavator Buckets is available up to 72"
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An effective hydraulic Grab, having a capacity of 3 cu. yd.
6. 3FT SQUARE HOLE BUCKET  
36 ins wide for digging square holes



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# THE *NEW* BIG 3½ CU.YD.



## FULLY HYDRAULIC AGITATOR

The Simdine Big 3½ fits on a standard 7 ton short wheel base chassis.

Hydraulic drive when agitating

Hydraulic tilting of the drum

Hydraulic reverse rotation of drum which speeds up loading under plant

**\* PLAN YOUR FLEET ON THE BIG 3½ !**

Keep your running costs LOW

Enjoy fractional maintenance costs and complete reliability

**ORDER NOW !**



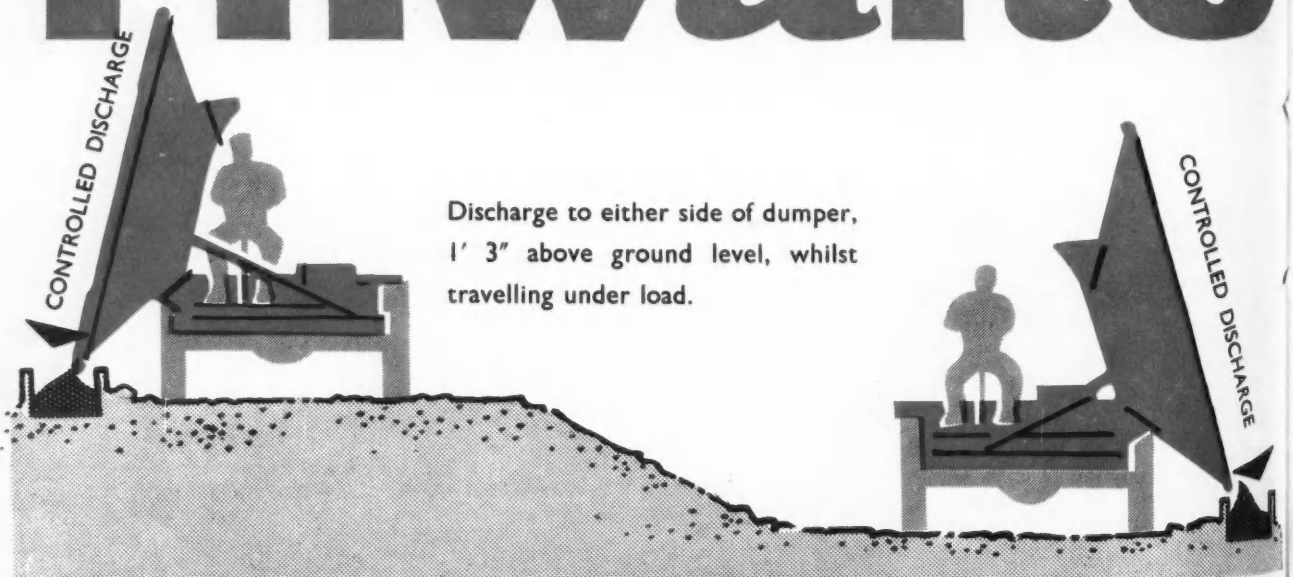
**Delbeta House, Queen Street, Nottingham**

**Tel. 88261-2-3**





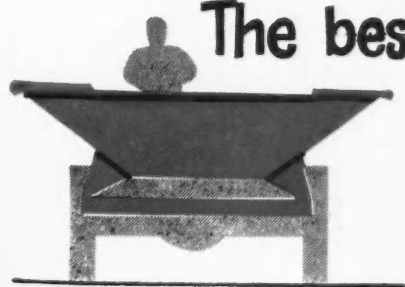
# Thwaite







# S TWO WAY TIP



**The best allround dumper yet — heres why**

The Thwaites Two-way Discharge Dumper provides hydraulically operated finger tip controlled discharge of material to right or left as required. Discharge can be regulated by the operator to avoid 'heaping' and wastage. The lip of the skip is within view of the operator at all times. 27 cu. ft. water level capacity. Maximum payload 30 cwt.

One piece welded chassis of great strength. Reliable Diesel engine of proved design. Balanced design — low centre of gravity.

## Thwaites

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AHEAD**

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MACHINES & SERVICE**

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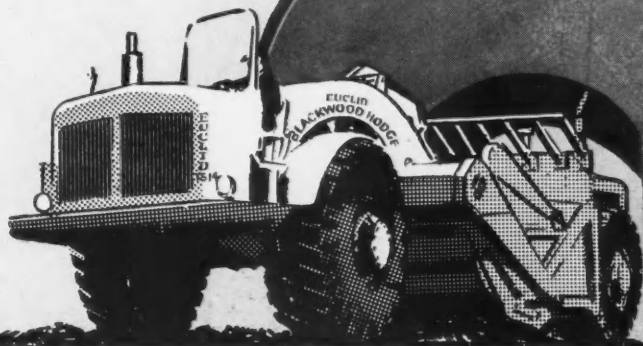
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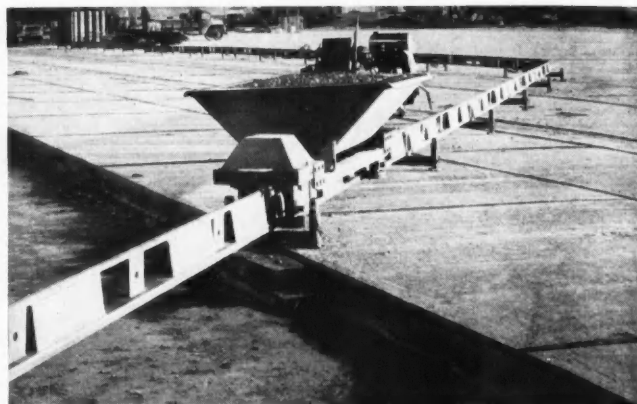
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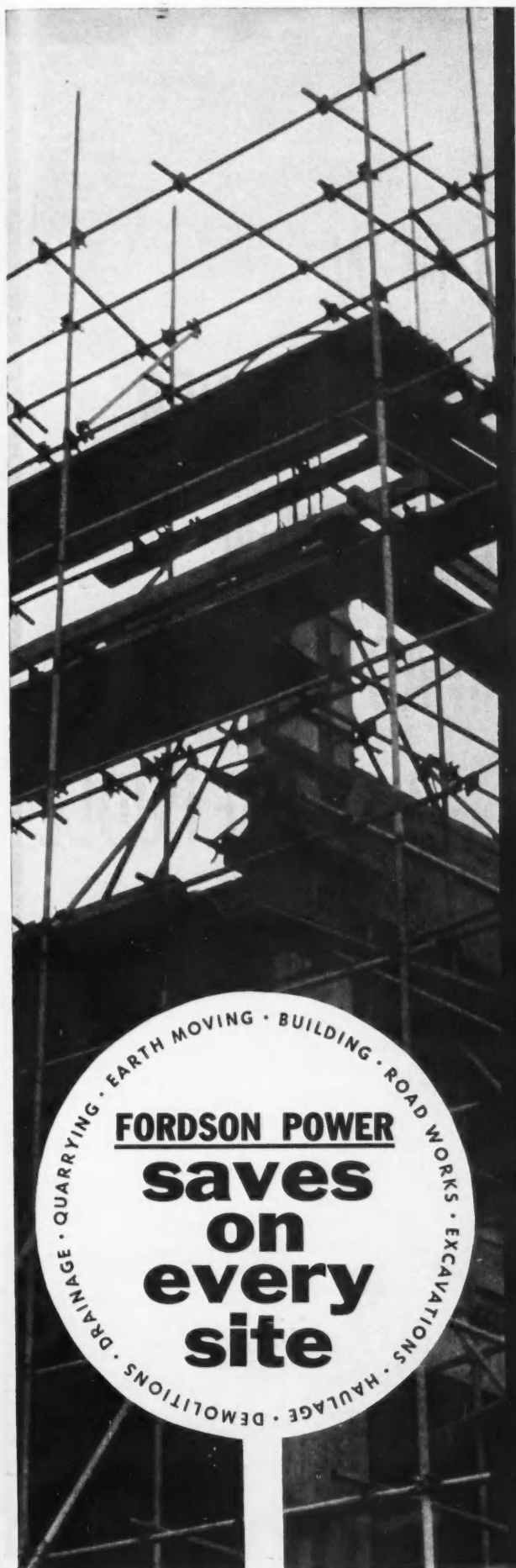


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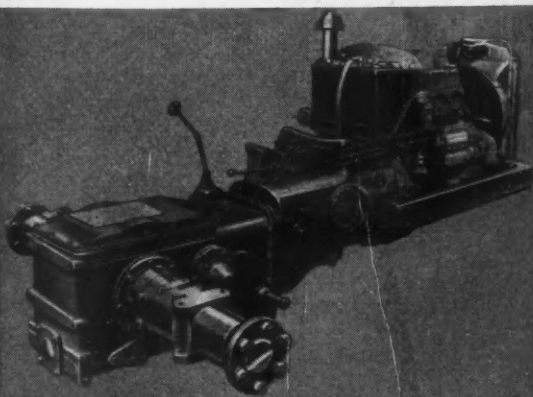
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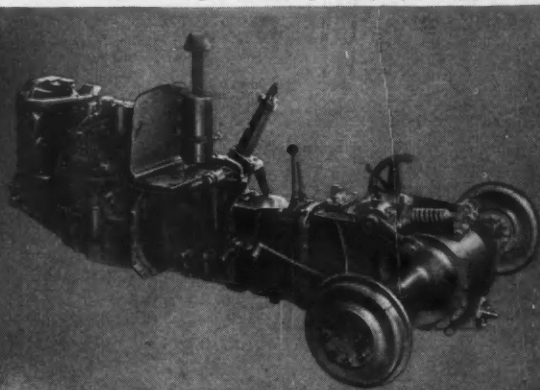


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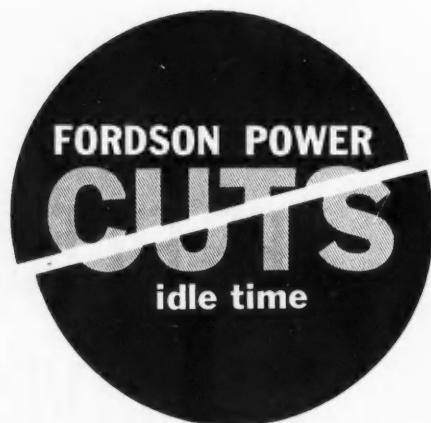


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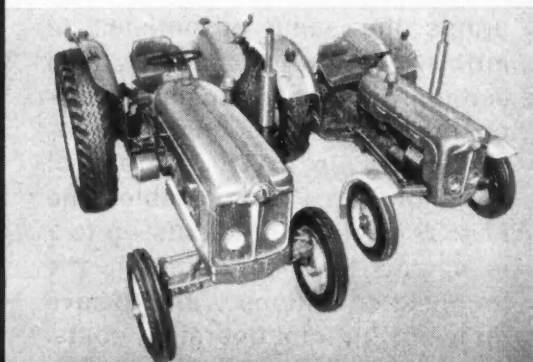
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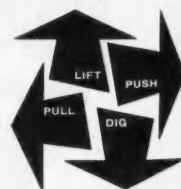


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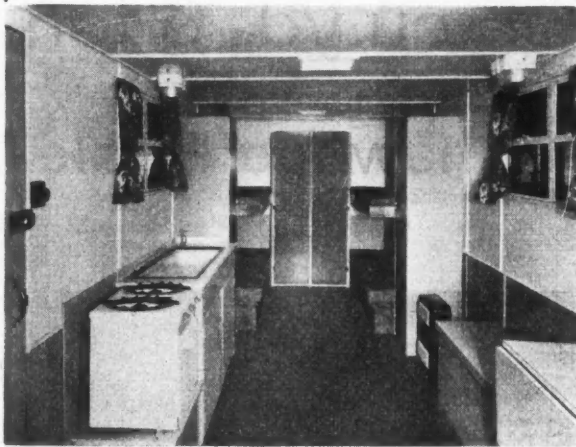


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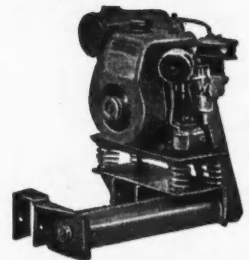
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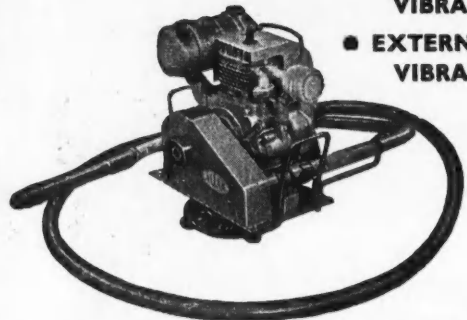
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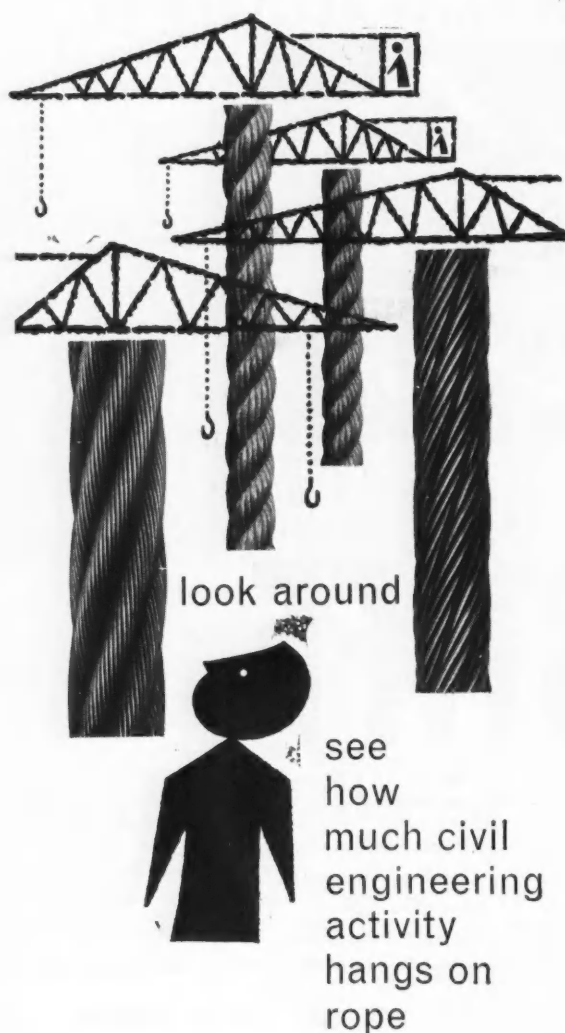
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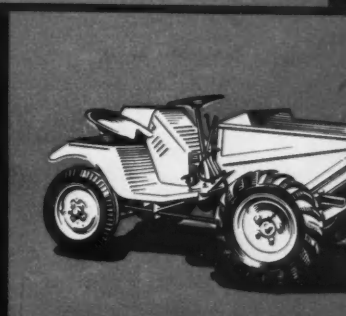
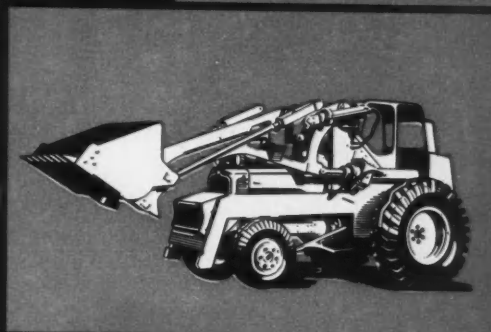
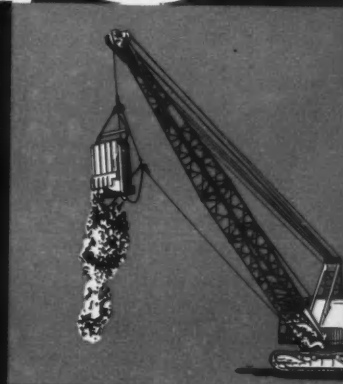
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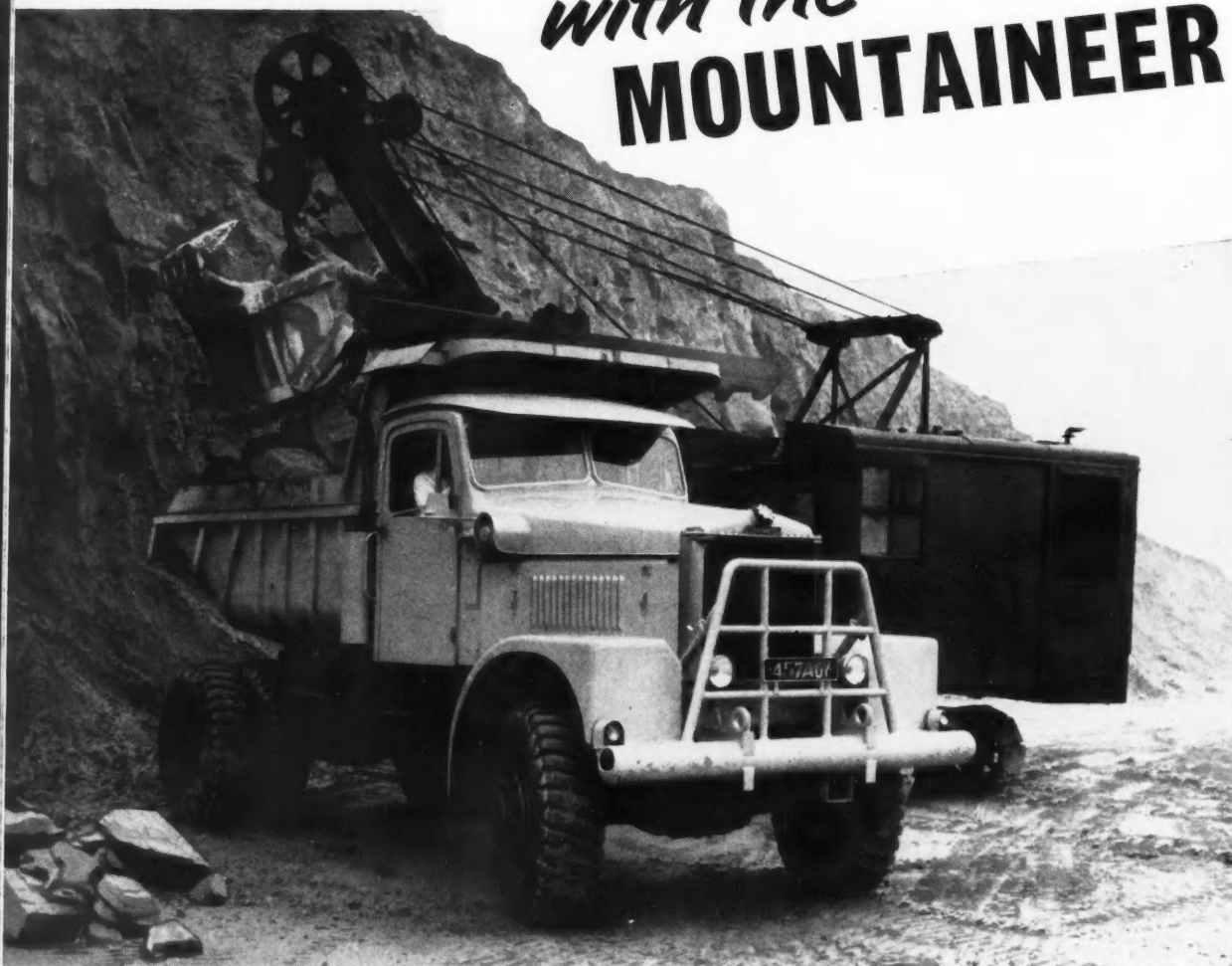
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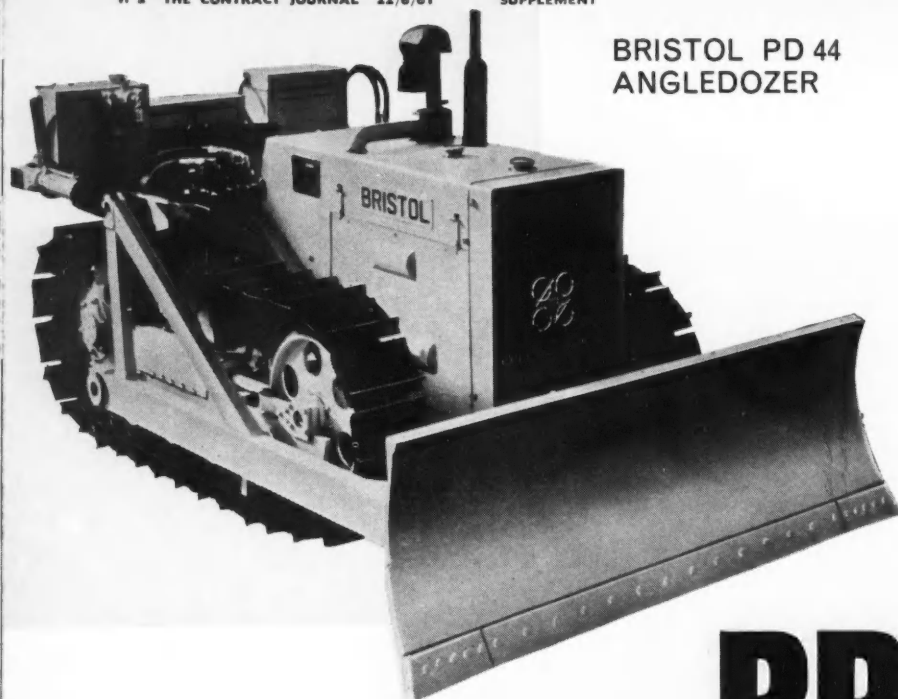
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Crystal Palace, June 15th, — June 24th 1961

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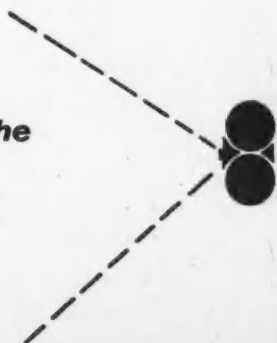
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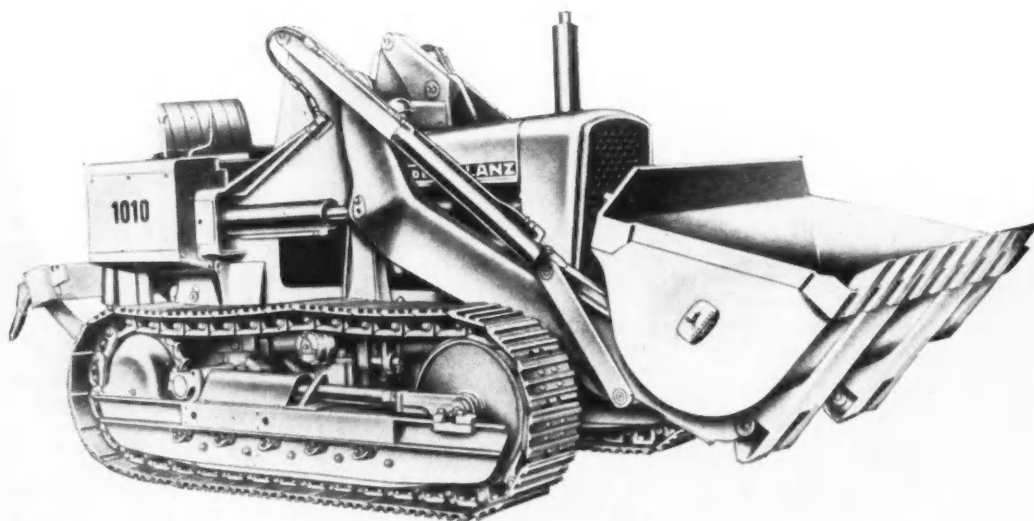
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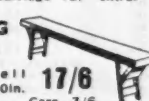
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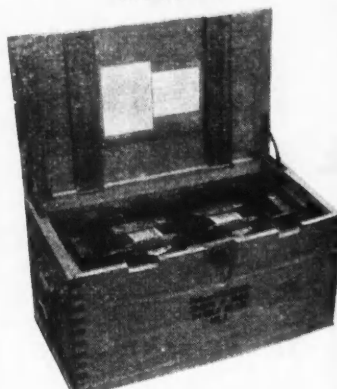
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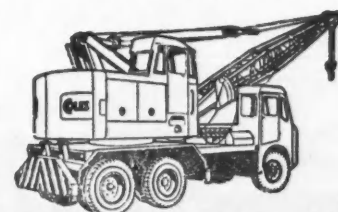
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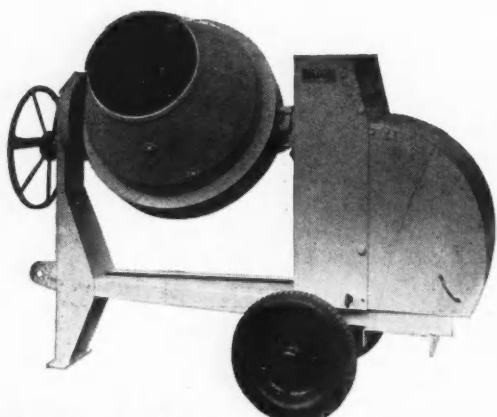
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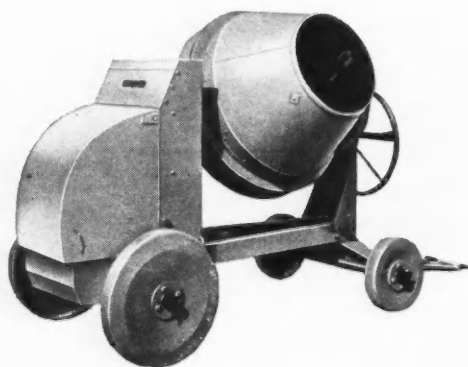
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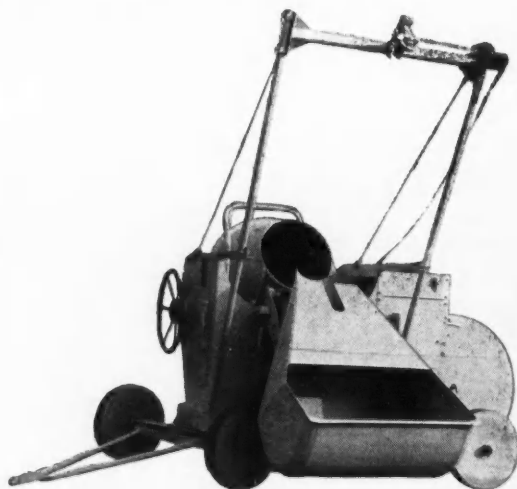
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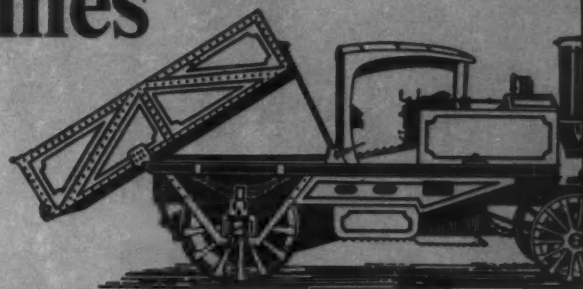
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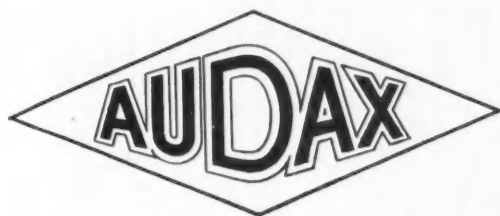
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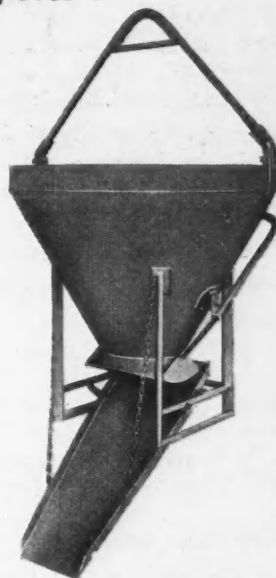
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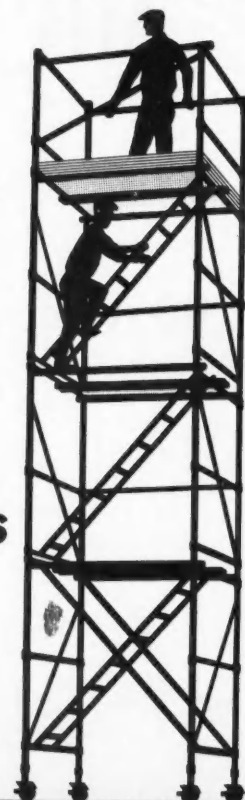
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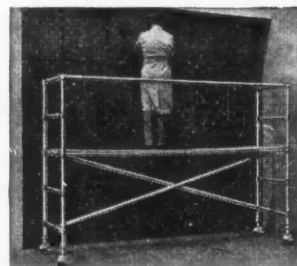


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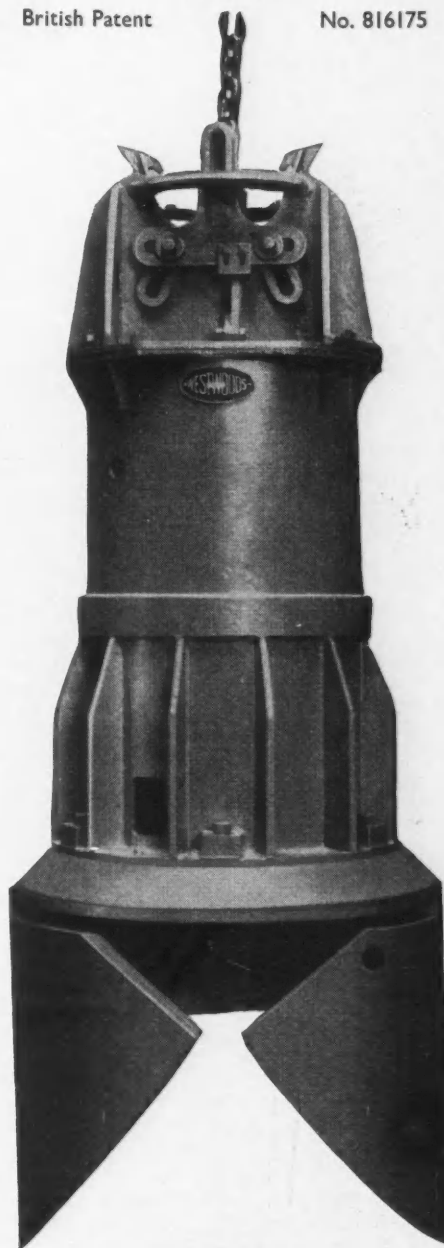
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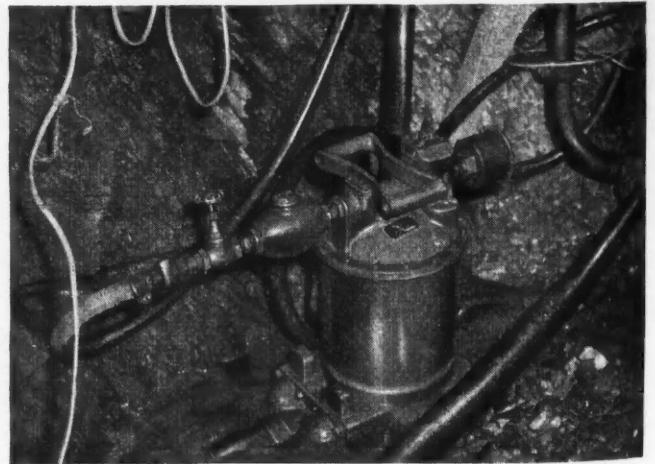
*For The Towan Outfall Scheme Newquay*

# Sir John Jackson



*A CP Compressor of 365 c.f.m. capacity supplying air for the operation of sludge pumps and rock drills.*

*This picture shows the difficult conditions found in some of the excavating. CP77 Sludge Pumps are employed to deal with excess water.*





# specify equipment



*An operator drilling into hard limestone with a CP-32 Rock Drill mounted on a feedleg.*

As contractors for some of the biggest civil engineering projects in the U.K., over many years, Sir John Jackson Ltd. know what they want when it comes to excavating. It is not surprising therefore that on a contract like the Towan Outfall Scheme at Newquay they selected CP equipment—not only for the tough conditions of operation but also to maintain the continuous service necessary for a contract of this type.

In spite of the most arduous conditions, the progress of work to date reflects the efficiency of the CP equipment Sir John Jackson Ltd. has chosen for this contract. Consulting Engineers: Messrs. Lemon & Blizard, Plymouth.

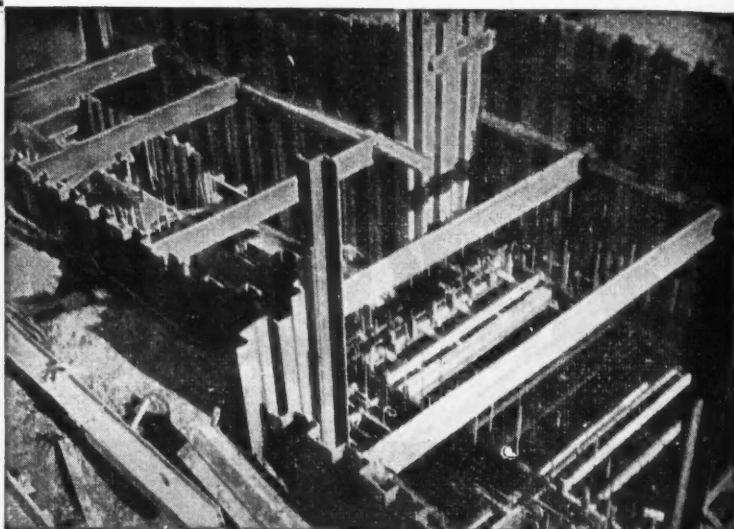


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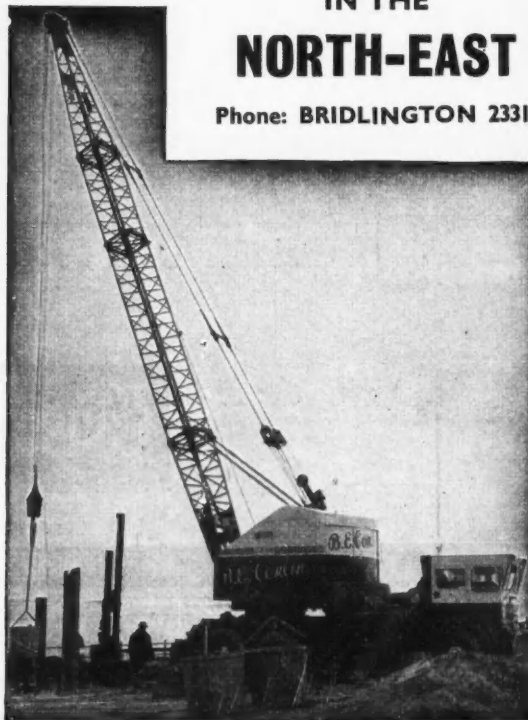
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## DISTURBING NEWS FOR CONCRETE

### 'Agitation amongst the aggregates'

OUR Industrial Correspondent reports considerable unrest in the National Union of Aggregates. The disquiet is caused by the proposed employment of still more CCL-Tremix on sites throughout the country.

#### MAY SETTLE DOWN

A spokesman for the employers said last night that in view of the excellent results obtained with CCL-Tremix they would go forward with their plans without further delay. They believe the aggregates would then settle down far more quickly than was at one time believed possible.

The general view is that when CCL-Tremix is introduced an early strike of the shuttering will take place, particularly when as expected the aggregates amalgamate with the reinforcement. This will result in consolidation to an extent previously unknown.

CCL Tremix Vibrators have a substantially higher efficiency and performance rating and give better compaction and finish to concrete than any other make.

The simplicity of design and the high quality of materials used in the manufacture of CCL Tremix Vibrators ensures greater reliability and lower maintenance costs.

The 1", 1½", 2" and 2½" Pokers can be interchanged from one drive onto either Electric or Petrol Motors.

You can quite easily prove that the CCL Tremix Vibrator is the best by writing or telephoning us to arrange a 7 day free trial on any site you wish to nominate.

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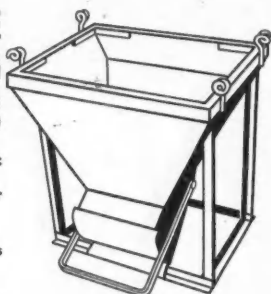
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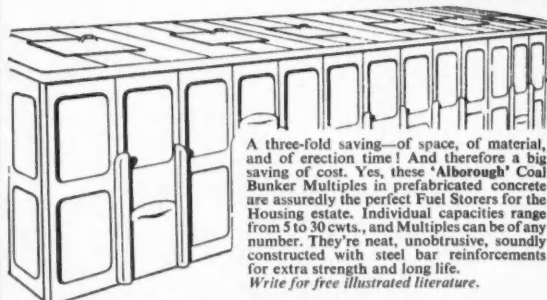


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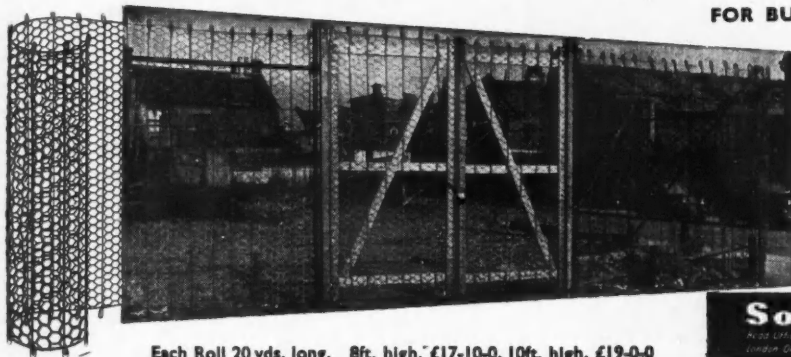
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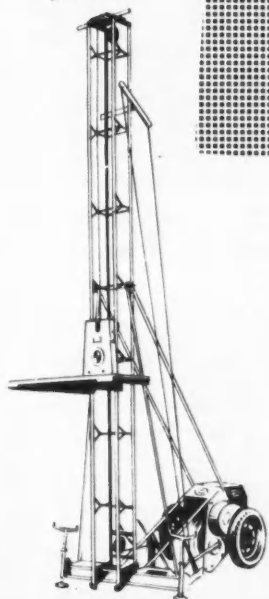
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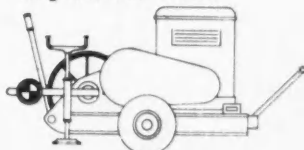
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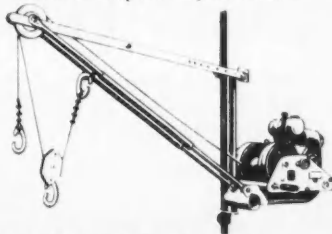
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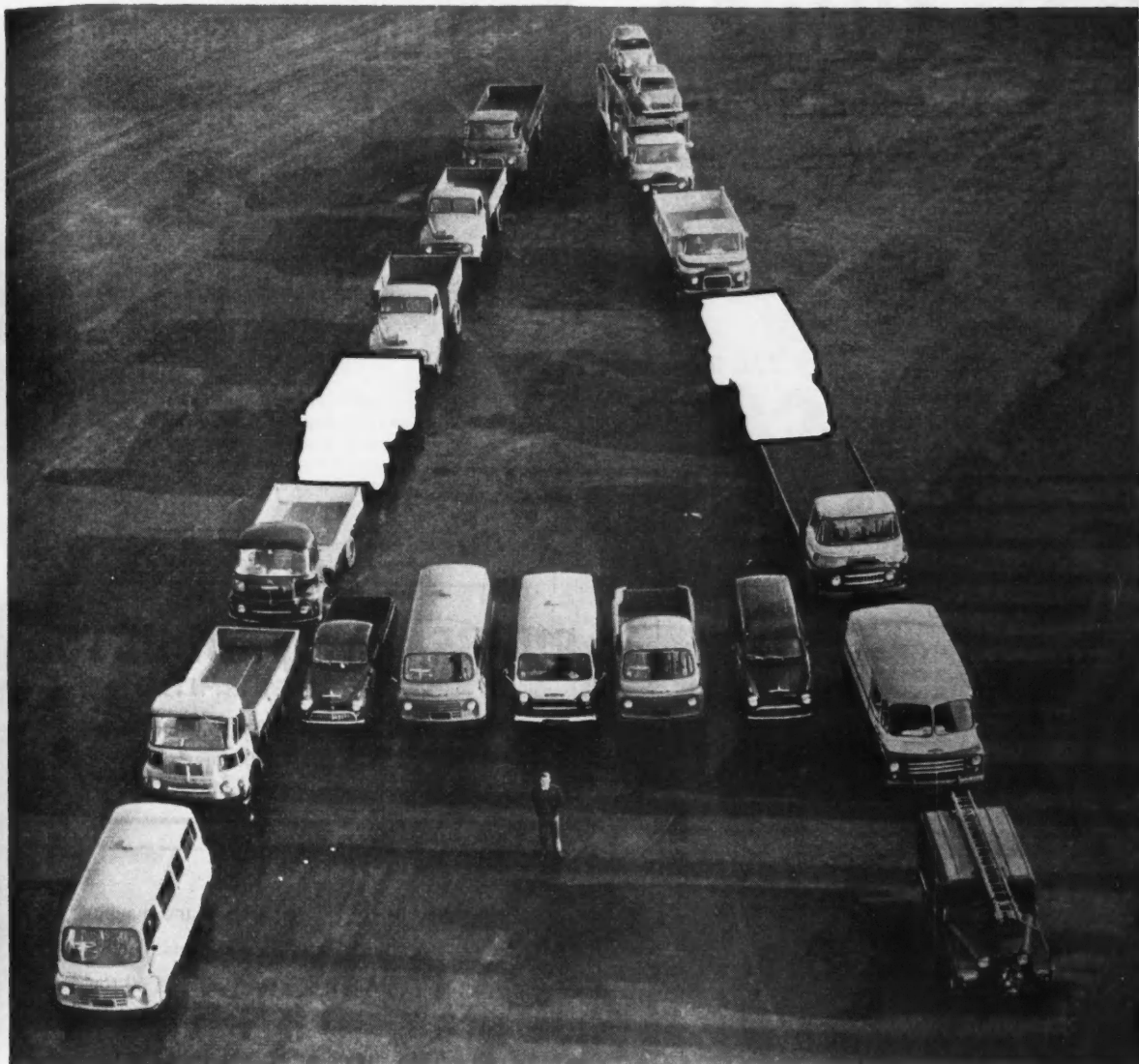
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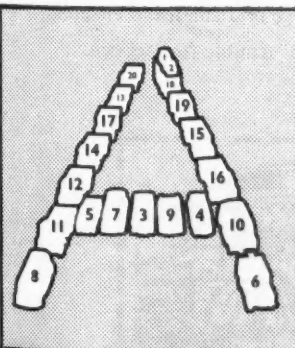
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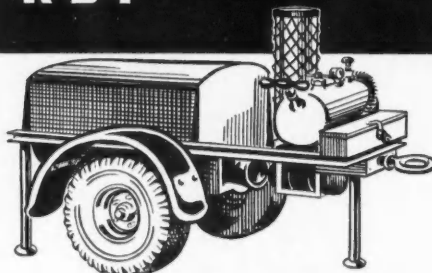
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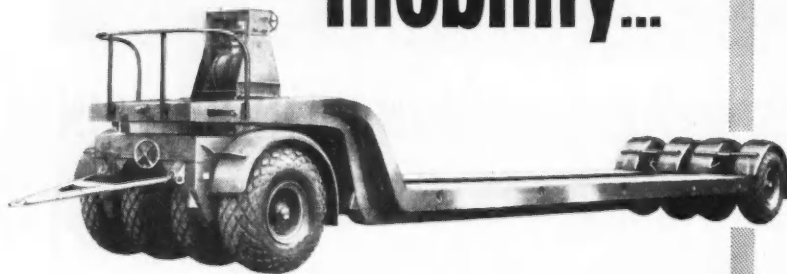
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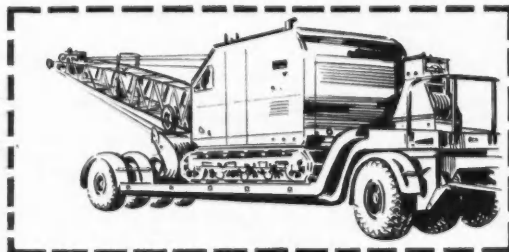
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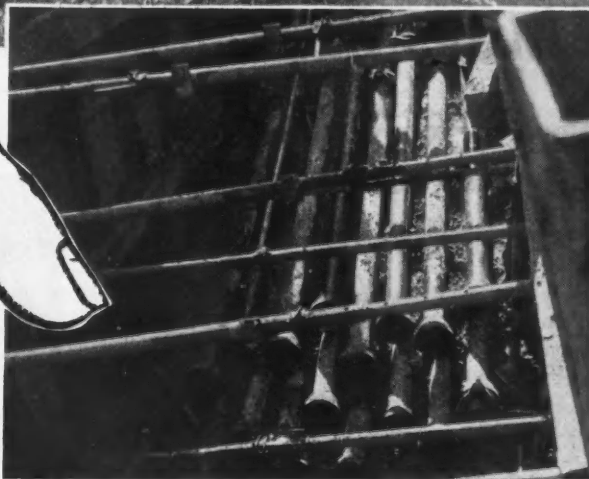
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Top picture shows first coffer dam in place—Cardiff Arms Park Ground in background. Staggering of pipe sockets can be seen inset. With pipes laid and cables threaded through, duct was filled with concrete, dam taken down, and the River Taff resumed its normal course.



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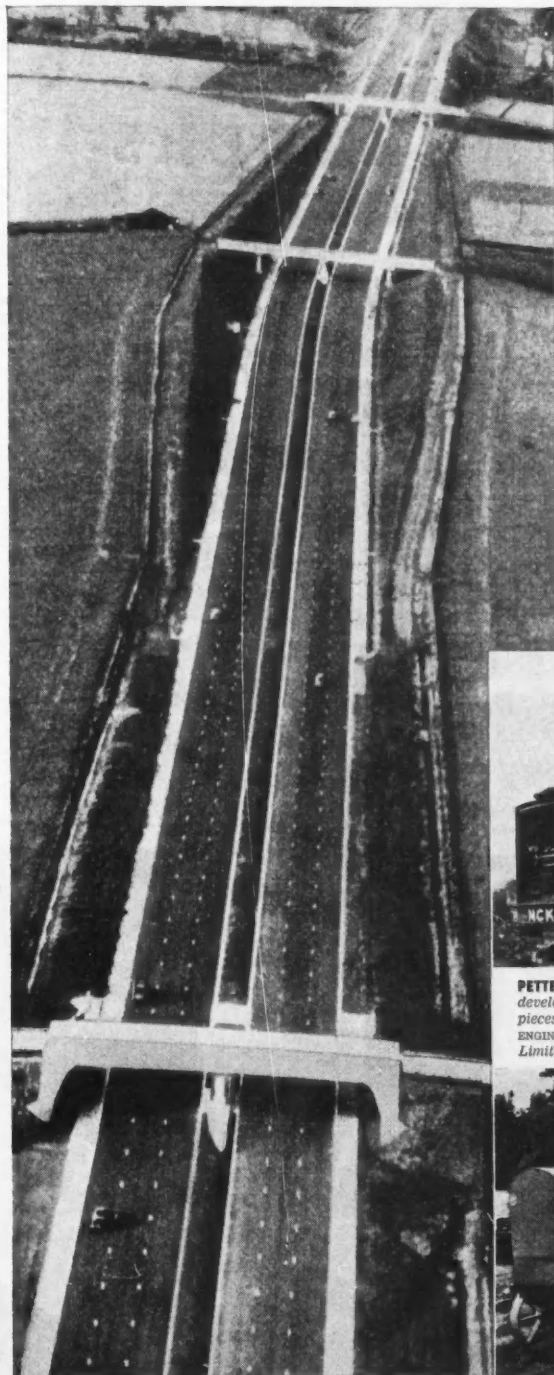


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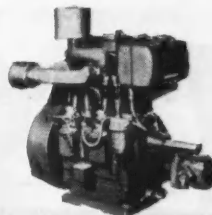
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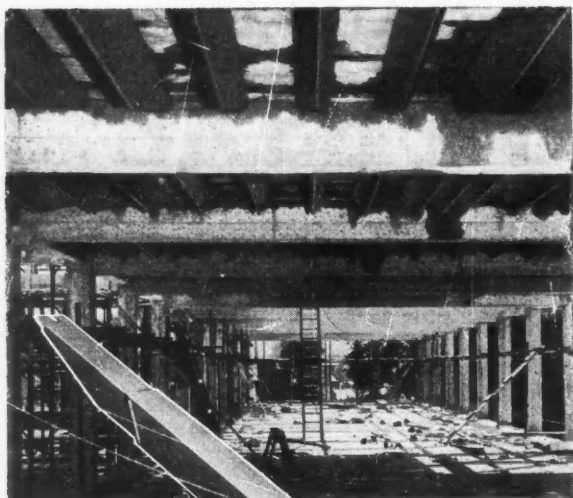
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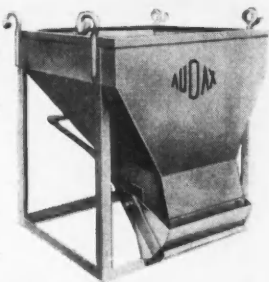
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and the  
keenest prices in the field*

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**AUDAX**

CENTRAL AVENUE, WEST MOLESEY, SURREY. Telephone: Molesey 6071 (8 lines).



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SURVEYS  
CUTTING  
BLASTING  
WELDING  
CONSTRUCTION  
DEMOLITION  
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CRAFT  
AVAILABLE  
FITTED WITH  
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COMPRESSORS  
ETC.  
24 HR. SERVICE

### DIVING CONTRACTORS

Work carried out in any part of the World

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65 HIGH RD., SWAYTHLING  
SOUTHAMPTON

Night  
55889



Ensure  
safety with

## DORMAN LONG Steel Trench Sheeting

(Regd. Design No. 850,839)

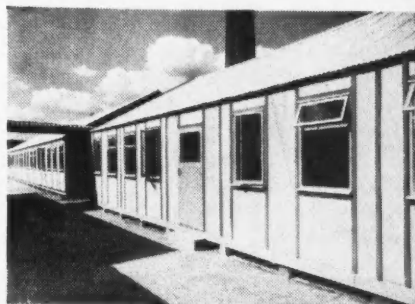
The ideal for temporary lining,  
easy to drive: can be used  
over and over again

## PROMPT DELIVERY

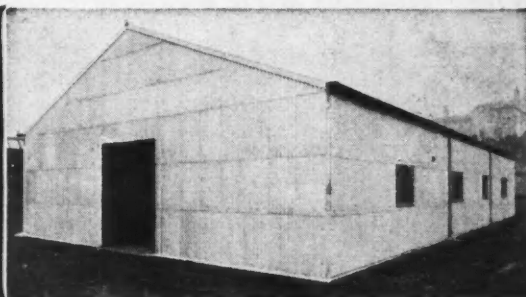
Prices and full particulars on application to

DORMAN LONG (Steel) LTD., SHEET DEPT.,  
AYRTON WORKS, MIDDLESBROUGH

London Office: Terminal House, 52 Grosvenor Gardens, S.W.1



# C&R



## SECTIONAL BUILDINGS SITE CABINS & OFFICES

BETTER BUILT . . . BETTER VALUE

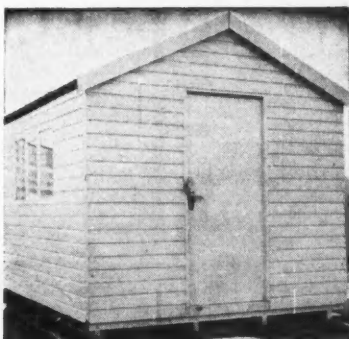
C & R gives that little extra in design, in  
materials, in construction.

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Multi-purpose building in asbestos or timber.  
Many sizes. Choice of linings.

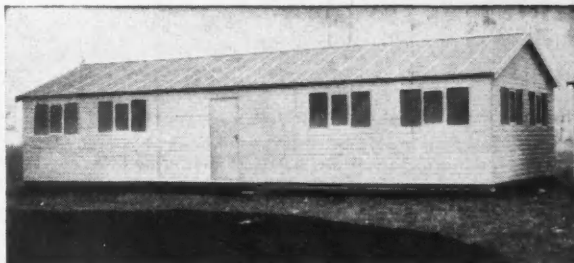
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An example of our sheeting service.



Site cabins & offices — a  
comprehensive range of  
sizes is available of all  
timber design — Weather-  
board — Tongued and  
Grooved Board or Ply-  
wood cladding being  
optional.

Write for details to  
Dept. (C.J.)



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HALIFAX

TELEPHONE: HALIFAX 68191/2

**WATES****Wates Built Homes Limited**

1250 London Road Norbury SW16 Telephone: POLlards 5000 Telegrams: Watesbid London

our ref JH/ER  
your ref

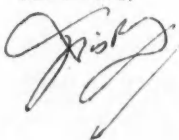
22nd March, 1961

K.G. Beck Esq.,  
Bramblecote,  
42 Tupwood Lane,  
CATERHAM,  
Surrey.

Dear Mr. Beck,

I thought I must write and tell you what a good door the new Mark 10 hardboard flush type is, finished with your Silkstone treatment. To my mind this now produces a better surface for painting than virtually any other door, plywood included, now on the market. As you know we are using it extensively and we are extremely pleased with it indeed.

Yours sincerely,



Directors: Norman E. Wates Ronald W. Wates Allan C. Wates Neil E. Wates

Mr. Beck is the Gliksten Doors representative in London

**"SILKSTONE"****THE FINEST DOOR IN THE WORLD FOR PAINTING****THE WATES "DORMY" HOUSE**

Wates Built Homes are using "Silkstone" Doors on the following estates:

Gravel Lane, Boxmoor.	Ashfield Lane, Chislehurst.
Sydenham Rise, S.E.23.	Inner Park Road, S.W.19.
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Auckland Ridge, S.E.19.	Roehampton Vale, S.W.15.
The Beeches, Slough.	Lawrie Park Gardens, S.E.26.
The Woodlands, Basildon.	Alley Park, S.E.21.
	Meadow Green, Langley.

Illustrated brochure and price list available on request.

**GLIKSTEN DOORS LTD.**

Carpenters Road, London, E.15. Tel: AMHerst 3300  
112 Londesborough Street, Hull. Tel: Central 28716  
87 Lord Street, Liverpool, 2. Tel: Central 3441

**abrams**

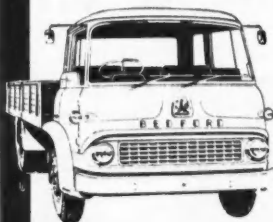
TK Tippers have the advantages of short wheelbase and forward control manoeuvrability. 7 ton — Gross laden weight 23,000 lbs. 7½ ton — Gross laden weight 25,000 lbs.

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**BEDFORD**

Our range and stock of Bedfords is the most comprehensive to be found, Lutons, flats, tippers. Standard bodies or a special type to your own specification. Excellent part exchanges and a complete after sales service. We are official Tecalemit A.C.L. lubrication specialists. Trade enquiries are welcome.

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An extensive range of low loaders are available with valuable labour-saving features for payloads up to 5 tons.

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square deal





- Light Weight
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16½" x 13"



Write for descriptive leaflet

## LEIGHTON BUZZARD TILES LIMITED

Manufacturers of 10½" x 6½" Bedfordshire Tiles and 15" x 9" Leighton Interlocking Tiles.

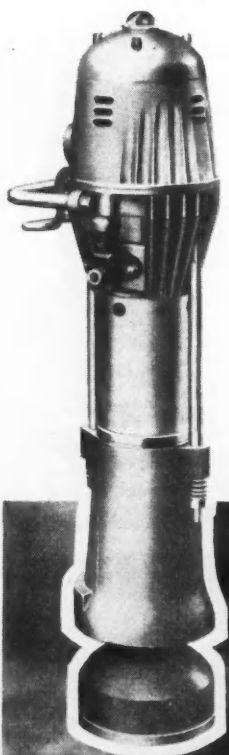
### HEAD OFFICE

158-160 CITY ROAD, LONDON, E.C.1.  
Tel: Clerkenwell 2040 (30 lines)

### WORKS

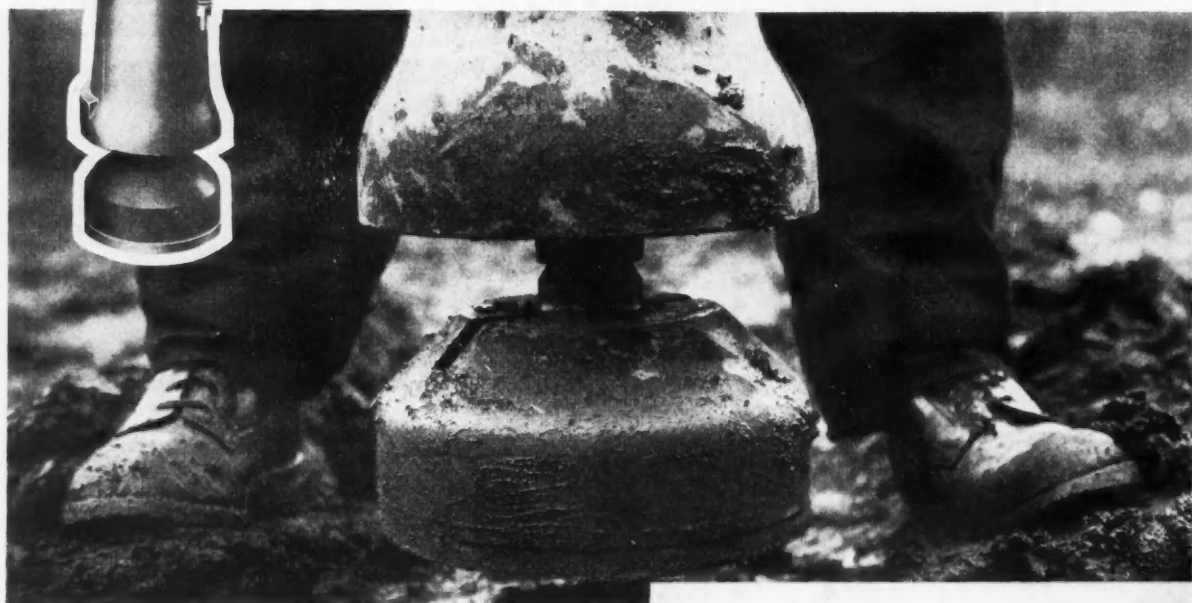
GROVEBURY ROAD, LEIGHTON BUZZARD, BEDS.  
Tel: Leighton Buzzard 2268 & 3418

Regd. Design  
No. 865289



# TRENCHMASTER

## AT ITS LEVEL BEST ON ROUGH GROUND



Every day, everywhere, working with maximum efficiency and minimum fuss the TRENCHMASTER power rammer is proving itself an invaluable aid to faster, cheaper site preparation.

Falling with an impact force of 9,000 lb. through 20" fifty times a minute it swiftly and solidly compacts earth, hardcore, rubble and every other type of loose material.

Simple to operate and cheap to run it brings to site preparation all the advantages of heavy rolling at a fraction of the cost. Robust, easily transportable and requiring minimum maintenance, it is the ideal tool for all compacting.

Find out more about the cost-cutting TRENCHMASTER.



A Pelapone Demonstration Unit ready to operate on site. A call to PELAPONE will bring this unit to your site to demonstrate the TRENCHMASTER'S ability to operate under all conditions.

## DIRECT-FUEL INJECTION ENSURES PERMANENT, TROUBLE-FREE PERFORMANCE

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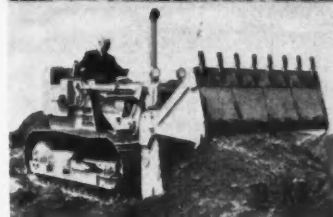
SALES DIVISION: STEEL HOUSE, EASTCOTE, PINNER, MIDDLESEX.

CABLES: PELAPONE PINNER TELEX. TELEPHONE: PINner 5881

HEAD OFFICE AND WORKS: P.O. BOX 4, DERBY TELEGRAMS: PELAPONE DERBY TELEPHONE: DERBY 45436

# The INTERNATIONAL 15-K3 DROTT

*fills the gap!*



...*between* the smaller and largest crawler shovels available today—both in size and price. With its 2¼ cu. yd. "four-in-one" equipment, 115 BHP 6-cylinder diesel engine, and fully reversible 6-speed transmission, the 15-K3 Drott represents exceptional value for money. High power-to-weight ratio provides forceful performance with excellent output and outstanding economy.

Offering unlimited advantages and scope, the range of International Drott crawler tractor shovels is proving itself continually on sites across the globe. Today the B-6K3 is the world's biggest selling tractor shovel, though in popularity its brothers follow close behind.

Amongst the many job proven features which set the Drott head and shoulders above its competitors are the following:-

- Shock swallowing 'Hydro-Spring' reducing impact forces on tractor and operator by 67%.
- Drott pry-out over skid-shoe action increases bucket breakout power by up to six times.
- Parallelogram type linkage keeps the bucket at a non-spill level throughout the 'raise' action. It also allows a maximum of forward vision as a result of its simplified design.

Included in a variety of job-matched equipments from skid-grapples to side-tips, the exclusive '4-in-1' bucket stands out as the most important—and popular. Fitted with this bucket, the machine's versatility is limitless and at the touch of a lever the operator can change from loading to excavating, bulldozing, grading, stripping, spreading, compacting...

TABLE SHOWING COMPARATIVE  
BUCKET CAPACITIES AND ENGINE H.P.

MODEL	B-6K3	B-8K3	9K3	15K3	B-20K3
BUCKET CAPACITY (cu. yds.)	1	1¼	1½	2¼	3
B.H.P. (at engine flywheel)	50	60	71	115	124



Every one backed by unrivalled service

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R. CRIPPS & COMPANY LIMITED

ESTABLISHED 1891

NOTTINGHAM, Tel. 71161. MANCHESTER, Tel. Trafford Park 1658. SHILDON, (Co. Durham) Tel. 261.



# Would you like to help . . .

## YORKSHIRE'S VAST AND IMMEDIATE MOTORWAY PROGRAMME?

THE DONCASTER BY-PASS MOTORWAY WILL BE OPEN BY AUGUST BANK HOLIDAY

THIS IS PART OF A ONE MILE SECTION OF THE DONCASTER BY-PASS MOTORWAY INCLUDING NO LESS THAN 7 BRIDGES

Wouldn't you have liked to take a part in this £6 million scheme?

Now is a unique opportunity for you to get design and construction experience on the Sheffield-Leeds Motorway in the West Riding. The project offers difficult, but interesting and satisfying jobs with good promotion prospects for a large number of road and bridge engineers of all grades up to lettered scale "E".

Besides the 35 miles Sheffield-Leeds Motorway the County Council is starting the location of the 33 mile East-West Motorway as well as numerous other dual carriageway schemes.

Write at once to the County Engineer and Surveyor, County Hall, Wakefield, for a brochure giving details of these permanent staff appointments.



# A. J. SAUNDERS (TRACTORS) LTD. OF STILTON

HAVE BEEN APPOINTED SOLE CONCESSIONAIRES  
IN U.K. AND EIRE  
FOR

## ARPS TRENCHING MACHINERY

AND NOW INTRODUCE THE  
NEW ARPS TRENCH DEVIL  
MODEL L-12

DEPTH OF DIG:  
maximum 5' 6"

TRENCH WIDTHS:  
2", 4", 6", 8", 10" and 12"



NUMBER OF  
DIGGING SPEEDS in  
both forward and  
rearward directions;  
infinite—no limit.

DIRT DISPOSAL: conveyor type,  
may be put on either side quickly.

BOOM CONTROL: Hydraulic,  
giving down pressure as well as lift.

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# STEPHENS & CARTER



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Head Office: 731-761 Harrow Road, London, N.W.10  
also at High Wycombe Birmingham, Norwich  
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A member of the Boulton and Paul Group

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## OPPORTUNITIES WITH

# CUBITTS

Applications are invited from men qualified to  
fill these positions:

### SITE ENGINEERS

#### Scotland, North East and Southern Counties

Senior and Junior Site Engineers are required for important and interesting contracts in Glasgow and North East England. Good practical experience on instrument work is necessary, and preferably, a sound knowledge of concrete control. Suitable applicants would be appointed to established staff, with the opportunity of progressive positions in the Cubitt Group. Applications should be addressed to the Managing Director, Holland & Hannen and Cubitts (Scotland) Ltd., 5, Royal Terrace, Edinburgh, 7. There are vacancies, also, in other parts of the U.K. and for these, please apply to the Personnel Manager, Holland & Hannen and Cubitts (Great Britain) Limited, 1, Queen Anne's Gate, S.W.1.

### GENERAL FOREMEN London

An opportunity is open for two young General Foremen to work on an interesting contract including progressive and long term conversion of very extensive "period" property. The successful applicants should preferably be apprentice trained and hold a City and Guilds or similar recognised qualification, and will work, initially, under the direction of a resident Contract Manager. The appointments carry excellent terms and conditions, and afford the opportunity of progressive development on the Company's established staff.

### COST SURVEYORS London

Excellent experience in this vital aspect of contract management is offered to young men with either some training in quantity surveying or a craft apprenticeship and adequate technical training and ability to fit them ultimately for a career in site management. Training will be given, and suitable applicants will be appointed to the established staff. Applicants should show clearly the training and experience gained so far.

Please address your application to:

**Personnel Manager (S.A. Section),  
Holland & Hannen and Cubitts Ltd.,  
1 Queen Anne's Gate, London, S.W.1.**

Tel: WHIttehall 3111.

If you are not yet sufficiently experienced for these vacancies but wish to have the opportunity to progress in the building industry, please write to our Personnel Department giving full details of your career and stating your ambitions—we may be able to help you.

Offices at:

EDINBURGH · GLASGOW · NEWCASTLE · LIVERPOOL  
BRISTOL · TORONTO · MONTREAL · VANCOUVER  
WELLINGTON, N.Z. · PORT OF SPAIN, TRINIDAD · BEIRUT

# CUBITTS ARE LOOKING FOR MEN WITH INITIATIVE...



... **initiative** to suggest and adopt new construction methods and techniques.

... **initiative** to make the most of ability and experience.

... **initiative** that instills confidence in a keen and enthusiastic team.

At Cubitts we have an international reputation as a progressive organisation, and we are looking for men with initiative and enterprise to match our own.

There is much to commend a career with Cubitts—the chance to develop individual skills and ideas; the opportunity to work on a great variety of interesting projects, in an atmosphere conducive to personal progress.

The Personnel Manager, Mr. E. E. Batty, will be pleased to discuss present and potential vacancies with men qualified in the industry's many activities.

## CUBITTS

HOLLAND & HANNEN AND CUBITTS LTD., 1 QUEEN ANNE'S GATE, LONDON S.W.1.

## CONTRACTS

## WILTSHIRE COUNTY COUNCIL.

## TENDERS invited for the FOLLOWING:

Improvement of the London-Bristol Trunk Road, A.4, approx. 1 mile west of Beckhampton. The works comprise the Excavation for, and Construction of, Widening and Realignment of the existing Carriageway over a length of approx. 1,300 lin. yd., including Kerbing, Drainage, Fencing, Footpath, Realignment and Adjustment to G.P.O. Plant, and other ancillary works.

Relevant documents obtainable from County Surveyor, County Hall, Trowbridge, on payment of £2 deposit, returnable on receipt of a bona-fide Tender. Drawings may be inspected, by appointment, at the above address.

Tenders, in envelopes provided, bearing no name or mark indicating origin, returnable by 5 p.m. on the 24th of JULY, 1961.

R. P. HARRIES,

Clerk of the County Council.

## BOROUGH OF BARRY.

## TO PUBLIC WORKS CONTRACTORS.

## EASTERN DRAINAGE.

The Council intend shortly to commence CONSTRUCTION of approximately 4,400 lin. yd. of 16in. to 42in. diameter CONCRETE PIPE SEWERS, TWO PUMPING STATIONS, 25in. diameter 24in. diameter SPUN-IRON RISING MAIN, SEA OUTFALL, together with Manholes, Connections to Existing Systems, and incidental Works.

Tenders will be invited from a selected list of contractors experienced in this class of work.

Contractors wishing to be considered for inclusion in this list should submit details of their experience on similar works and their cost, together with names of three persons to whom reference can be made, to the Borough Engineer and Surveyor, Town Hall, Barry, Glam., not later than SATURDAY, the 24th June, 1961.

J. CLEMENTS COLLEY,

Town Clerk.

Town Hall,

Barry,  
14th June, 1961.

## BOROUGH OF LUTON.

TENDERS invited for CONSTRUCTION OF ROADS AND SEWERS (Stage 5), LEWSEY FARM ESTATE. Approx. 30,000 sq. yd. Lean Concrete, Bituminous Surfaced Carriageways with Kerbs; also 3,700 lin. yd. 6in. to 12in. dia. Sewers, and ancillary works.

Tender documents from Borough Engineer, Town Hall, Luton, on payment of £2 2s. deposit, returnable after receipt of bona-fide Tender not subsequently withdrawn. Cheques payable Luton Corporation.

Tenders to TOWN CLERK, Town Hall, Luton, by Noon, THURSDAY, 13th July, 1961.

## CITY OF CAMBRIDGE.

## CHESTERTON LANE IMPROVEMENT.

TENDERS are invited for the IMPROVEMENT OF CHESTERTON LANE, at the junction with Castle Hill.

The Work consists of the Demolition of the Existing Brick Wall and Construction of approximately 100 lin. yd. of a New Mass Concrete and Brick Retaining Wall, the Construction of approximately 350 sq. yd. of New Footpath and approximately 375 sq. yd. of Carriageway, together with other ancillary works.

The Bills of Quantities, Specification and Conditions of Contract may be obtained from the City Engineer and Surveyor, The Guildhall, Cambridge, on a deposit of Three Guineas. The deposit will be returned on the receipt of a bona-fide Tender.

Tenders must be delivered to the Guildhall, Cambridge, in the official envelope provided, not later than 3 p.m. on THURSDAY, 13th July, 1961.

The lowest or any Tender will not necessarily be accepted.

ALAN H. I. SWIFT,

Town Clerk.

The Guildhall,  
Cambridge,  
June, 1961.

## MALLING RURAL DISTRICT COUNCIL.

ERECTION OF HOUSES FOR SALE—  
LARKFIELD, EAST MALLING.

FIXED-PRICE TENDERS are invited for the ERECTION OF FOUR PAIRS OF HOUSES, together with Service Road, Sewers, and ancillary works, as a Pilot Scheme for a Programme of approx. 200 Houses for Sale, to be let in Contracts of about 50 Houses during the next few years.

Conditions of Contract, Specifications, Bills of Quantities and Form of Tender may be obtained from the Engineer and Surveyor to the Council, Council Offices, West Malling, upon payment of a deposit of Two Guineas, returnable upon receipt of a bona-fide Tender not subsequently withdrawn.

The Drawings and General Conditions of Contract may be inspected at the Office of the Engineer and Surveyor.

Sealed Tenders, in envelopes provided, must be delivered to the undersigned at the Council Offices, West Malling, by Noon on WEDNESDAY, the 19th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

F. B. W. LINNITT,

Clerk of the Council.

Council Offices,  
West Malling,  
23rd May, 1961.

## SOUTH CARDIGANSHIRE WATER BOARD.

## MAINLAYING CONTRACT NO. 53.

FIXED-PRICE TENDERS are invited from experienced contractors for the LAYING OF THREE MAINS EXTENSIONS in the RURAL DISTRICT OF TREGARON.

The Works comprise Excavation for, and Laying of, approximately 13,300 yd. of 3in. diameter Asbestos-Cement Pipes, 700 yd. of 3in. diameter Spun-iron Pipes, and 3,900 yd. of 2in. diameter Asbestos-Cement Pipes, together with the usual ancillary Works connected therewith.

Contract documents and Drawings may be obtained from the Engineer to the Board, H. PROTHIER, ESQ., M.A., M.I.C.E., 36 Alban Square, Aberaeron, upon payment of a deposit of £3 3s., which will be refunded on the receipt of a bona-fide Tender not subsequently withdrawn and the return of the Contract documents.

Tenders, in plain sealed envelopes endorsed "Tender for Mains Extensions—Contract No. 53," must be delivered to the undersigned, not later than First Post on TUESDAY, 11th July, 1961.

J. E. R. CARSON,

Clerk to the Board.

Swyddfa'r Sir,  
Marine Terrace,  
Aberystwyth.

## CONTRACTS

## STAFFORDSHIRE COUNTY COUNCIL.

TENDERS are invited for the RECONSTRUCTION and DIVERSION of a LENGTH of the STONE-RUGELEY ROAD, A.51, at BURSTON, near Stafford. The work includes Excavation, Kerbing, Vibrated Dry Stone, Carriageway Foundation, Surface Water Drainage, Hedgess, Fences, Walls, Two-coat Bituminous Macadam Running Surface, and Cattle Creep.

No final surfacing is included in this Contract. Copies of the Specification and Bill of Quantities may be obtained from the undersigned on payment of a deposit of £5 which will be refunded on receipt of a bona-fide Tender or on return of the documents before closing date.

Tenders, endorsed "Burstion Diversion," and bearing no indication of the name of the sender, should be returned to the undersigned not later than 12 Noon on the 13th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

T. H. EVANS,

Clerk of the County Council.

County Buildings,  
Stafford,  
June, 1961.

## BOROUGH OF ENFIELD.

12 THREE-STOREY FLATS, 2 HOUSES AND  
11 GARAGES.

## SEAFOARD ROAD, ENFIELD.

Building contractors desirous of TENDERING for the ERECTION OF 12 THREE-STOREY FLATS, 2 HOUSES and 11 GARAGES at Seaford Road, Enfield, should apply to the Borough Engineer and Surveyor, H. DERYCK PEAKE, M.Sc.(Eng.), M.I.C.E., 7 Little Park Gardens, Enfield, by First Post, TUESDAY, 27th June, 1961. Bills of Quantities and Forms of Tender will be forwarded on or about the 30th June, 1961.

All applications must be accompanied by a deposit of £2 2s., to be returned on receipt of a bona-fide Tender addressed to the undersigned, and on return of all documents.

Plans and Conditions of Contract may be inspected at the Offices of the Borough Engineer as aforesaid on or after the 3rd July, 1961, on Mondays to Fridays, between the hours of 9 a.m. and 12.30 p.m.

Tenders must reach the undersigned not later than Noon on FRIDAY, the 21st July, 1961, and no Tender will be received except in a plain envelope which must be sealed and must bear the words "Tender for 12 Flats, 2 Houses and 11 Garages—Seaford Road, Enfield," but shall not bear any name or mark indicating the sender.

The Council do not bind themselves to accept the lowest or any Tender.

Contractors tendering will be required to submit particulars of similar works which have been carried out by them.

CYRIL E. C. R. PLATTEN,

Town Clerk.

Civic Centre,  
Enfield, Midds.

## BOROUGH OF RUGBY.

RECONSTRUCTION OF ALWYN ROAD AND  
LIMETREE AVENUE.

TENDERS are invited for the CONSTRUCTION of approx. 1,050 lin. yd. of 22in. CARRIAGEWAY and 230 lin. yd. of 18in. CARRIAGEWAY, Surfacing of Footways, and other incidental work at the ABOVE SITE.

Form of Tender, Conditions of Contract, Specification and Bill of Quantities may be obtained from the Borough Engineer, Town Hall, Rugby, on payment of a deposit of £2 2s., which will be returned only on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in the envelopes provided, but with no mark to indicate the sender, must be delivered to the undersigned not later than Noon on MONDAY, 3rd July, 1961.

T. L. DUFFY,

Town Clerk.

## SEVENOAKS URBAN DISTRICT COUNCIL.

LONDON-HASTINGS ROAD, A.21—  
PARK GRANGE CORNER WIDENING SCHEME.  
WROTHAM-LIMPFIELD ROAD, A.25—  
SEAL ROAD—LAY-OUT AND WIDENING SCHEME.

TENDERS are invited for CARRYING OUT the CONSTRUCTIONAL WORK in connection with the ABOVE-MENTIONED WIDENING SCHEMES.

The Forms of Tender and Bills of Quantities may be obtained from the Engineer and Surveyor on payment of a deposit of £2 2s., which will be returned on receipt of bona-fide Tenders.

Tenders, in the endorsed envelopes provided, should be delivered to the undersigned not later than 12 Noon on FRIDAY, the 7th July, 1961.

The Council does not bind itself to accept the lowest or any Tender.

A. F. E. DAVIS,

Clerk of the Council.

Council Offices,  
Argyle Road,  
Sevenoaks, Kent,  
June, 1961.

## BARNET URBAN DISTRICT COUNCIL.

## GRANGE AVENUE PRIVATE STREET WORKS.

The Council invites TENDERS for the MAKING-UP OF GRANGE AVENUE under the Highways Act, 1959, Code 1892.

The work comprises the Provision and Laying of Precast Concrete Kerb and Channel, the Provision of Footways in Tarmacadam, with Grass Verges, and the Scarifying and Surfacing of the Carriageway.

Conditions of Contract and Drawings may be inspected, and Specification of Works, Bill of Quantities and Form of Tender obtained, on application to the Engineer and Surveyor of the Council, Ravenscroft House, Wood Street, Barnet, on any day (Saturdays excepted) between the hours of 9 a.m. and 5 p.m.

Sealed Tenders must be delivered to the undersigned not later than 12 Noon on WEDNESDAY, 28th June, 1961, and marked in the top left-hand corner of the envelope "Making-up of Grange Avenue."

The Council does not bind itself to accept the lowest or any Tender.

ALFRED S. MAYS,

Clerk of the Council.

Municipal Offices,  
Wood Street,  
Barnet, Herts.,  
7th June, 1961.

## MANCHESTER CORPORATION WATERWORKS.

TENDERS invited for approximately 33,000 tons WASHED CORRETE AGGREGATE.  
Tender Forms, etc., returnable by 3rd JULY, from the SECRETARY, Waterworks Department, Town Hall, Manchester, 2.

## CONTRACTS

## DERBYSHIRE COUNTY COUNCIL.

## BRIDGES AND HIGHWAYS DEPARTMENT.

## WHALEY BRIDGE-SHEFFIELD ROAD, A.625.

## WIDENING BETWEEN "MARQUIS OF GRANBY" AND NETHERALL, HATHERSAGE.

TENDERS are invited for WIDENING and IMPROVEMENT WORKS on approx. 2,400 lin. yd. of Road, to provide a 33ft. Carriageway, including 33,000 cu. yd. of Excavation, Fencing, Drainage, and other ancillary works.

Form of Tender, etc., may be obtained from, and Plans seen at, the Office of the County Surveyor, County Offices, Matlock, on payment of £5 deposit, cheques to be made payable to Derbyshire County Council. Deposit will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelope endorsed "Marquis of Granby Improvement B. and H." to be delivered to the Clerk of the County Council, County Offices, Matlock, Derbyshire, by MONDAY, 17th July.

The County Council does not bind itself to accept the lowest or any Tender.

S. MEHEW,

County Surveyor.

County Offices,  
Matlock, Derbys.

## DERBYSHIRE COUNTY COUNCIL.

## BRIDGES AND HIGHWAYS DEPARTMENT.

## DISMANTLING OF WALTON BRIDGE.

TENDERS are invited for the DISMANTLING of the 256ft. long x 21ft. wide TIMBER and IRON BRIDGE at WALTON-ON-TRENT, including the Removal of Piers below water level.

Form of Tender, etc., may be obtained from the County Surveyor, County Offices, Matlock. Tenders, in plain sealed envelope endorsed "Walton Bridge B. and H.," to be delivered to the Clerk of the Council, County Offices, Matlock, by WEDNESDAY, 19th July.

The Council does not bind itself to accept the lowest or any Tender.

S. MEHEW,

County Surveyor.

## COUNTY BOROUGH OF BOURNEMOUTH.

## BOROUGH ENGINEER'S DEPARTMENT.

## TURBARY COMMON DEVELOPMENT.

TENDERS are invited for the CONSTRUCTION of about 1,600 lin. yd. of ROADS AND SEWERS.

Forms of Tender, etc., available from Borough Engineer, Town Hall, Bournemouth, where Drawings can be seen from 25th June, 1961, upon payment of One Guinea which will be refunded on receipt of a bona-fide Tender.

Tenders to reach me by 7th JULY, 1961.

A. LINDSAY CLEGG,

Town Clerk.

## BOROUGH OF CHATHAM.

## HIGHWAYS ACT, 1959.

## MAKING-UP OF WATSON AVENUE—STAGE 2.

TENDERS are invited for the CONSTRUCTION of approx. 1,250 sq. yd. of CARRIAGEWAY, incorporating 312 lin. of 18in. Asher, and 3in. of Two-coat Tarmacadam, together with the Provision and Laying of 370 lin. yd. of Concrete Kerbing, 820 sq. yd. of Artificial Stone Paving, and various S.W. Drainage, Retaining Wall, and other ancillary works, in Watson Avenue.

The Form of Tender, Special Conditions of Contract, Specification and Bills of Quantities may be obtained from the Engineer and Surveyor, J. A. T. RICHARDS, Borough Engineer and Surveyor, Town Hall, Chatham, on payment of a deposit of Two Guineas which will be refundable on receipt of a bona-fide Tender on the return of all documents prior to the closing date.

Tenders must be returned in a plain sealed envelope endorsed "Tender for Making-up of Watson Avenue—Stage 2," to reach the undersigned not later than 12 Noon on FRIDAY, 7th July, 1961.

The Council does not bind itself to accept the lowest or any Tender.

ROWLAND NEWNES,

Town Clerk.

Town Hall,  
Chatham.

## CITY OF ROCHESTER.

## STREET LIGHTING PROGRAMME, 1961/62.

## CONVERSION SCHEME—STAGE II.

TENDERS are invited for the ERECTION of approx. 500 CLASS "B" CONCRETE LIGHTING COLUMNS, together with the Supply and Fitting of all Equipment to these columns, and various ancillary works, in the ABOVE SCHEME.

The Drawings and General Conditions of Contract may be inspected at the Office of JAMES A. PEEL, A.M.I.C.E., M.I.Mun.E., City Surveyor, 66 Maidstone Road, Rochester, during normal working hours. The Form and Conditions of Tender, Special Conditions of Contract, Specification and Bills of Quantities may be obtained at the above address on payment of a deposit of £2 2s. which will be refundable on the acceptance of a bona-fide Tender.

Tenders, in a plain sealed envelope endorsed "Tender for Proposed Street Lighting Programme, 1961/62—Conversion Scheme—Stage II," must be received by the undersigned not later than Midday on SATURDAY, 15th July, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

PHILIP H. BARTLETT,

Town Clerk.

Guildhall,  
Rochester, Kent.

## HORNCHURCH URBAN DISTRICT COUNCIL.

## NOTICE TO BUILDING CONTRACTORS.

The Council have under consideration the provision of a list of building contractors for all future BUILDING CONTRACTS. These will vary considerably in size, from Sports Pavilions at £3,500, Social Halls at £12,000, and Housing Contracts averaging £100,000.

Contractors wishing to be considered for inclusion on this list should apply to me before the 30th JUNE, 1961, giving particulars of recent contracts carried out, and of persons to whom reference can be made.

P. L. COX,

Clerk of the Council.

Hornchurch U.D.C.,  
Council Offices,  
Hornchurch,  
Essex.



## CONTRACTS

## BOROUGH OF MITCHAM.

## THE GABLES, 112 TAMWORTH LANE.

TENDERS are invited for the CONSTRUCTION of SIX FLATS for OLD PEOPLE, together with the Layout of Car Park and Gardens.

Applications for Tender documents must be made to the Borough Engineer and Surveyor, Town Hall, Mitcham, Surrey, before the 28th JUNE, 1961, and Tenders, in the envelope provided, must reach the undersigned not later than First Post on MONDAY, 31st July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. H. WHITE,

Town Clerk.

Town Hall,  
Mitcham, Surrey.  
8th June, 1961.

## BOROUGH OF CHESTERFIELD.

## SPITAL LANE IMPROVEMENT.

TENDERS are invited for CARRYING OUT the ABOVE ROAD IMPROVEMENT WORKS, which includes for the Widening of the Existing Road to a Carriageway width of 24ft., and two 8ft. Footpaths for a length of approximately 400yd.; the Construction of approximately 110yd. of Reinforced Concrete Retaining Wall, Demolition of Railway Overbridge and Removal of approximately 13,000 cu. yd. of Material from the Embankments, together with all the necessary Drainage and Accommodation Works.

The Plans and General Conditions of Contract may be inspected at, and the Specification and Bills of Quantities may be obtained from the office of the Borough Engineer, Town Hall, Chesterfield, upon payment of a deposit of Two Guineas, refunded on receipt of a bona-fide Tender and return of all documents.

Tenders must be in plain sealed envelopes and endorsed "Tender for Spital Lane Improvement," and must reach the undersigned not later than 10 a.m. on THURSDAY, 6th July, 1961.

RICHARD CLEGG,

Town Clerk.

Town Hall,  
Chesterfield.  
9th June, 1961.

## CITY OF MANCHESTER.

TENDERS are invited for the SUPPLY of the FOLLOWING—

- One Air Compressor, mounted on a Fordson Major Diesel Tractor.
- Two Ford Thames 3-ton Tower Wagons.
- Two Mechanical Road Sweeper Collectors, 7ft. sweeping width.
- Four Commer Cob Vans.
- Three Corner Scwts. Forward Control Chassis Cabs.

Tender Forms, returnable by 4th JULY, 1961, from the CITY SURVEYOR, Town Hall, Manchester, 2.

## CITY OF YORK.

## STREETS AND BUILDINGS COMMITTEE.

## THE GROVES REDEVELOPMENT—CONTRACT 7.

TENDERS are invited for the CONSTRUCTION of approximately 3,200 sq. yd. of PITCHED CARRIAGEWAY FOUNDATION and TARMACADAM SURFACING, 890 yd. of GLAZED STONEWARE FOUL SEWERS and SURFACE WATER DRAINS, and 1,100 lin. yd. of CONCRETE KERB and CHANNEL, together with other ancillary Works.

The General Conditions of Contract and Drawings may be inspected at, and the Specification, Bills of Quantities and Forms of Tender obtained from, the office of the undersigned, on payment by cheque (made payable to York Corporation) of £2, which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

The completed Form of Tender shall be delivered to the undersigned in the official printed Tender envelope, sealed and endorsed "The Groves Redevelopment—Contract 7," not later than Noon on TUESDAY, 11th July, 1961.

The lowest or any Tender will not necessarily be accepted.

CHAS. J. MINTER,  
City Engineer, Surveyor  
and Planning Officer.

7 St. Leonard's Place,  
York.

## ASPULL URBAN DISTRICT COUNCIL.

## EXTERNAL PAINTING OF COUNCIL HOUSES.

TENDERS are invited for the EXTERNAL PAINTING of all COUNCIL HOUSES situated in Various Parts of the HILTON ESTATE, Aspull.

The work is divided into three parts, and contractors are invited to tender for all or any of these Contracts. Specifications, Colour Schedules and Forms of Tender may be obtained from P. A. J. MINTER, A.M.I.Mun.E., M.Inst.H.E., Engineer and Surveyor, on payment of a deposit of £2 2s., which sum will be returnable on receipt of a bona-fide Tender.

Tenders, in plain sealed envelopes endorsed "External Painting of Council Houses," to be delivered to the undersigned not later than 12 Noon on SATURDAY, 1st July, 1961.

The Council does not bind itself to accept the lowest or any Tender.

PETER RYDER,

Clerk of the Council.

Council Offices,  
Aspull, Lanc.  
16th June, 1961.

## GIPPING RURAL DISTRICT COUNCIL.

## STONHAM ASPAL SEWERAGE AND SEWAGE DISPOSAL.

TENDERS are invited for the CONSTRUCTION, TESTING AND MAINTENANCE of about 1,850yd. of SPUN-IRON, CONCRETE AND GLAZED STONEWARE SEWERS, SEWAGE DISPOSAL WORKS, MANHOLES, and all other works incidental thereto.

A copy of the Contract documents may be obtained from the Council's Consulting Engineers, MESSRS. LEMON AND BLIZARD, 59 Tuford Street, Westminster, S.W.1, upon payment of a deposit cheque for Five Guineas, made payable to the Council, which will be returned on receipt of a bona-fide Tender and the return of all documents. The Form of Tender and a Priced Bill of Quantities must be delivered in a sealed envelope endorsed "Tender for Stonham Aspal Sewerage and Sewage Disposal," to the undersigned before Noon on FRIDAY, 21st July, 1961.

The Plans and Drawings may be seen during normal working hours at the offices of the Consulting Engineers or the Council.

The Council do not bind themselves to accept the lowest or any Tender.

W. M. BENNETT,

Clerk of the Council.

Council Offices,  
Needham Market,  
Ipswich.

## CONTRACTS

## BOROUGH OF MAIDSTONE.

## AYLESFORD SEWAGE DISPOSAL WORKS.

## WM18 CONTRACTS M16 AND M17.

SEPARATE FIRM-PRICE TENDERS are invited for the SUPPLY and DELIVERY to the AYLESFORD DISPOSAL WORKS of MEDIUM and FLOOR DRAINAGE TILES, as indicated for Biological Percolating Filters—

Contract M16—Filter Medium, 14,500 cu. yd. 2in. to 3½in.; 2,900 cu. yd. 5in. to 7in.  
Contract M17—Floor Drainage Tiles, 8,000 sq. yd.

Particulars and Specifications obtainable from the Consulting Engineers, MESSRS. HOWARD HUMPHREYS AND SONS, West Street, Epsom, Surrey, as from Monday, 26th June, 1961, until Friday, 7th July, 1961, upon payment of a deposit of Five Guineas, made payable to the Corporation, returnable for bona-fide Tender not subsequently withdrawn.

No Tender considered unless on the official form and delivered to the undersigned in plain envelope endorsed as stated in the documents, but bearing no indication of the sender, not later than MONDAY, 24th July, 1961.

The Council do not bind themselves to accept any Tender.

T. SCHOLES,

Town Clerk.

Town Clerk's Office,  
13 Tonbridge Road,  
Maidstone,  
Kent.  
June, 1961.

## CHERTSEY URBAN DISTRICT COUNCIL.

## BRACKENDENE CARAVAN PARK.

FIXED-PRICE TENDERS are invited for RESURFACING approximately 3,250 sq. yd. of CARRIAGEWAY, and other incidental Works.

Copy of Drawing, Specification and form of Tender can be obtained from N. C. GOLDSMITH, M.B.E., M.I.Mun.E., Engineer and Surveyor, The Orchard, Staines Lane, Chertsey, upon payment of a deposit of £1 1s., which will be returned on receipt of a bona-fide Tender.

The Tenders are to be returned in a plain sealed envelope endorsed "Brackendene Caravan Park," and should reach me not later than 12 Noon on FRIDAY, 7th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

L. W. WAY,

Clerk of the Council.

Council Offices,  
Guildford Street,  
Chertsey,  
Surrey.

## STRATFORD-ON-AVON

## RURAL DISTRICT COUNCIL.

## MORETON MORRELL HOUSING SITE—STAGE III.

## ADVANCED PREPARATION OF HOUSING SITE—STAGE 1.

TENDERS are invited on a Fixed-price Basis from experienced contractors for the CONSTRUCTION of approx. 515 lin. yd. of 6in. to 9in. dia. FOUL and SURFACE WATER SEWERS complete with Manholes and appurtenant works; approx. 2,372 super. yd. of PITCHED CARRIAGEWAY, and approx. 350 lin. yd. of 3in. dia. SPUN-IRON WATER MAIN, together with all necessary Valves and Hydrants.

Conditions of the Specification, Bills of Quantities and Form of Tender may be obtained on application to the Engineer and Surveyor, J. WOOD, A.I.A.S., A.M.P.H.E., 5 Tysoe Street, Stratford-on-Avon, on payment of Two Guineas, returnable on receipt of a bona-fide Tender.

Sealed Tenders should be delivered to the undersigned not later than 12 Noon on THURSDAY, 20th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

D. W. NEWPORT,

Clerk of the Council.

Council Offices,  
11 Guild Street,  
Stratford-on-Avon,  
16th June, 1961.

## BIRMINGHAM TAME AND REA

## DISTRICT DRAINAGE BOARD.

## CONTRACTORS' PLANT.

TENDERS are invited for the SUPPLY and DELIVERY of the FOLLOWING CONTRACTORS' PLANT—

- (1) Crawler-mounted Excavator, ¾ cu. yd. Diesel engine driven.
- (2) Tractor-mounted Trenching Equipment, ½ cu. yd. Diesel engine driven.
- (3) Pneumatically Tyred Dumpers (two), ½ cu. yd. Diesel engine driven.

Documents may be obtained from the Engineer to the Board, Rookery Park, Erdington, Birmingham, 24. 6.55yd. in the envelope provided, must reach the undersigned not later than First Post on MONDAY, 26th June, 1961.

The Board is not bound to accept the lowest or any other Tenders.

ARTHUR J. WRIGHT,

Clerk to the Board.

Clerk's Office,  
Lombard House,  
Great Charles Street,  
Birmingham, 3.  
12th June, 1961.

## BIRMINGHAM TAME AND REA

## DISTRICT DRAINAGE BOARD.

## YARDLEY TO TYBURN MAIN SEWER—CONTRACT 1.

## CAST-IRON PIPES AND SPECIALS.

TENDERS are invited for the SUPPLY and DELIVERY to the SITE of the Board's proposed YARDLEY TO TYBURN MAIN SEWER on CASTLE BROMWICH AIRFIELD, Chester Road, Birmingham, of CAST-IRON PIPES AND SPECIALS. Approximately 6,650yd. of 48in. diameter Bolted Gland Spun-iron Pipes are required, together with Special Pipes and a quantity of other Pipes and Specials, of 6in. and 9in. diameter.

Tender documents may be obtained from the Engineer to the Board, Rookery Park, Erdington, Birmingham, 24.

Tenders, in the envelopes provided, must reach the undersigned not later than First Post on MONDAY, 26th June, 1961.

The Board is not bound to accept the lowest or any other Tender.

ARTHUR J. WRIGHT,

Clerk to the Board.

Clerk's Office,  
Lombard House,  
Great Charles Street,  
Birmingham, 3.  
14th June, 1961.

## CONTRACTS

## BEDFORDSHIRE COUNTY COUNCIL.

## LONDON-CARLISLE-GLASGOW-INVERNESS TRUNK ROAD, A.6.

## BARTON-IN-THE-CLAY DIVERSION.

TENDERS are invited for the ABOVE WORKS, which comprise the Widening and Diversion of the existing Carriageway, and ancillary works. Approx. length 400 lin. yd.

Documents may be obtained from the County Surveyor, Dents Road, Bedford, on depositing Two Guineas which will be refunded on receipt of a bona-fide Tender.

Tenders should be returned, in the envelope provided, to arrive not later than 7th JULY, 1961.

GEORGE BREWIS,

Clerk of the County Council.

Shire Hall,  
Bedford.

## DURHAM COUNTY COUNCIL.

## ASPHALT SURFACING.

FIXED-PRICE TENDERS are invited for the SUPPLY and LAYING of approx. 272,000 super. yd. of HOT ROLLED ASPHALT.

The Contract includes the Bedding and Laying of Reflecting Road Marking Studs, and other incidental works.

Form and Conditions of Tender, Conditions of Contract, Specification, Schedules and Bills of Quantities may be obtained from the County Engineer and Surveyor, Aykley Heads, Durham.

Tenders, in plain sealed envelopes endorsed "Tender for Asphalt Surfacing," are to be delivered to the undersigned not later than Noon on FRIDAY, 30th June, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

J. K. HOPE,

Clerk of the County Council.

Shire Hall,  
Durham.

## BOROUGH OF LOUGHBOROUGH.

## LAYING OF 12IN. SPUN-IRON WATER MAIN.

FIXED-PRICE TENDERS are invited for the LAYING of approx. 1,200yd. of CLASS "D" SPUN-IRON WATER MAIN, and other incidental works.

Drawings and General Conditions of Contract may be inspected at, and the Specification, Bill of Quantities and Form of Tender may be obtained from, the undersigned on deposit of Two Guineas which will be returned on the receipt of a bona-fide Tender not subsequently withdrawn.

Tenders shall be delivered to ARTHUR USHER, Town Clerk, Southfields, Loughborough, in a plain sealed envelope endorsed "Laying of 12in. Water Main," not later than Noon on MONDAY, 10th July, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

JOHN S. BATES, A.M.I.C.E., M.I.Mun.E.,  
A.M.T.P.I.,  
Borough Surveyor and  
Water Engineer.

Southfields,  
Loughborough.  
13th June, 1961.

## CITY OF WORCESTER.

## TENDERS.

## ADDITIONAL SANITARY ACCOMMODATION.

## MALE HOUSE BLOCK, HILLBOROUGH.

TENDERS are invited for the ABOVE WORKS, which comprise the Erection and Completion of an Additional Sanitary Wing in Three-storey Block in Traditional Brick Construction with Reinforced Concrete Floors and Roof, the Demolition of a Small Existing Toilet Block, and Minor Alterations to Toilet Accommodation in an Existing Wing.

Documents obtainable from City Engineer and Surveyor, 22 Bridge Street, Worcester, on deposit of Three Guineas (cheques payable to Worcester Corporation), which will be refunded after receipt of a bona-fide Tender and the return of Tender documents.

Tenders must be posted to the Town Clerk, to arrive not later than THURSDAY, 13th July, 1961.

BERTRAM WEBSTER,

Town Clerk.

Guildhall,  
Worcester.

## CITY OF WORCESTER.

## TENDERS.

## ERECTION OF THREE BUNGALOWS AND SIX GARAGES, DINES GREEN ESTATE.

TENDERS are invited for the ABOVE, in Traditional Brick Construction, together with External Services, Drains, etc.

Documents obtainable from City Engineer and Surveyor, 22 Bridge Street, Worcester, on deposit of Three Guineas (cheques payable to Worcester Corporation), which will be refunded after receipt of a bona-fide Tender and the return of Tender documents.

Tenders must be posted to the Town Clerk, to arrive not later than MONDAY, 17th July, 1961.

BERTRAM WEBSTER,

Town Clerk.

Guildhall,  
Worcester.

## URBAN DISTRICT OF BROWNHILLS.

## GROUP "A" LIGHTING SCHEMES.

## (A) WATLING STREET, BROWNHILLS, A.S.

## (B) BROWNHILLS ROAD, HEDNESFORD ROAD, WALSALL ROAD AND BURNWOOD ROAD, NORTON CANES.

FIXED-PRICE TENDERS are invited for the ABOVE, which, in the case of Scheme (A), comprises the Supply, Erection and Wiring-up complete of 33 200-W Sodium Lamps on, and including, 30ft. mounting height Steel Columns; and, in the case of Scheme (B), the Supply, Erection and Wiring-up complete of 83 250-W Mercury Vapour Discharge Lamps on, and including, 25ft. mounting height Concrete Columns.

Documents may be obtained from the Council's Engineer and Surveyor, CHARLES H. HUNT, A.M.I.Mun.E., Coombe House, Brownhills, Staffs., upon receipt of a deposit of £2 2s., which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders, in plain sealed envelopes endorsed "Street Lighting, 1961," are to be received by the undersigned not later than First Post on MONDAY, 3rd July, 1961.

NORMAN WAINE,

Clerk of the Council.

Council Offices,  
Brownhills,  
Staffs.  
12th June, 1961.

## CONTRACTS

## COUNTY BOROUGH OF READING.

BULMERSHE, WOODLEY HOUSING ESTATE—  
SITE NO. 33.

STAGES II AND III.

TENDERS are invited for CONSTRUCTION of 9,000 sq. yd. (approximately) CARRIAGEWAYS, with FOUL and SURFACE WATER SEWERS, on the BULMERSHE, WOODLEY HOUSING ESTATE.

General Conditions and Drawings may be inspected, and Bill of Quantities, etc., obtained, for fee of Two Guineas (cheques payable to Reading Corporation), at Borough Surveyor's Office (P.O. Box 17), Town Hall, Reading. Fee refunded for bona-fide Tender.

Tenders to be delivered to TOWN CLERK, Town Hall, Reading, by 12 Noon on MONDAY, 17th July, 1961. No Tender considered unless enclosed in plain sealed envelope endorsed "Bulmershe, Woodley Housing Estate—Stages II and III," but bearing no indication of sender.

The Corporation do not bind themselves to accept any Tender.

## ORPINGTON URBAN DISTRICT COUNCIL.

REFUSE COLLECTION VEHICLE.

TENDERS are invited for the SUPPLY and DELIVERY of ONE 18 cu. yd. DUAL TIP REAR-LOADING REFUSE COLLECTION VEHICLE with Diesel Engine.

The vehicle to be painted, lettered and delivered in accordance with the Council's instructions, further particulars of which may be obtained from the Chief Public Health Inspector, Council Offices, Crofton Pound Hill, Orpington.

Tenders are required to offer a price for a 10 cu. yd. Carrier C.K.3 Side-loading Refuse Collection Vehicle (1951) to be taken in part exchange. This vehicle can be inspected by arrangement with the Chief Public Health Inspector at the depot at the rear of the Council Offices.

Tenders, on suppliers' own form, stating date of delivery, to be submitted to the undersigned, in plain sealed envelopes endorsed "Refuse Collection Vehicle," by not later than Noon on MONDAY, the 3rd day of July, 1961.

Tenders should note that the Council is entitled to a fleet owner's discount, and Tenders must be endorsed to the effect that this has been taken into consideration in submitting prices.

The Council do not bind themselves to accept the lowest or any Tender.

STEPHEN KING,  
Clerk of the Council.

Council Offices,  
Crofton Pound Hill,  
Orpington, Kent.

## HARLOW URBAN DISTRICT COUNCIL.

TENDERS are invited for the FOLLOWING WORKS:

- (1) Earthworks, Drainage, Preparation, Cultivation and Seeding of 10.5 acres approx. of Playing Fields, together with ancillary works, at Staple Tye, Great Pardon, Harlow.
- (2) Earthworks, Drainage, Preparation, Cultivation and Seeding of 12 acres approx. of Playing Fields, together with ancillary works, at Barn Mead, Passmores, Harlow.
- (3) The Provision of Fencing to the Playing Field, Stage VI, Bush Fair, Tye Green, Harlow.

Drawings may be obtained from A. W. R. WEBB, A.M.I.C.E., M.I.Mun.E., M.R.S.H., Engineer and Surveyor, Town Hall, Harlow, Essex, on payment of a deposit of £2 2s. which will be refunded on receipt of a bona-fide Tender. Cheques should be made payable to Harlow Urban District Council.

Tenders, in plain sealed envelopes marked "Playing Fields," must be delivered to the CLERK OF THE COUNCIL, Town Hall, Harlow, Essex, not later than 12 Noon, MONDAY, 10th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

## ATHERSTONE RURAL DISTRICT COUNCIL.

TENDERS FOR DWELLINGS.

TENDERS are invited for the ERECTION OF SIX FLATS, SIX MAISONNETTES, EIGHT GARAGES and EXTERNAL WORKS on a SITE at LONG STREET, Atherstone.

Applications for copies of the Plans and Bill of Quantities, accompanied by a deposit of £2 2s. (which will be returned on receipt of a bona-fide Tender and the return of the Plans and documents), should be made to MESSRS. L. N. JEPSON AND PARTNERS, Chartered Architects, Midland Bank Chambers, Nuneaton.

Sealed Tenders, endorsed "Tender for Flats," are to be delivered to me not later than 12 Noon on MONDAY, 17th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender, and contractors tendering do so at their own cost.

G. CARLYON MAY,  
Clerk of the Council.

Council Offices,  
Atherstone,  
15th June, 1961.

## BRIDGE-BLEAN RURAL DISTRICT COUNCIL.

ERECTION OF 12 FLATLETS FOR OLD PEOPLE, AND WARDEN'S FLAT, STURRY.

TENDERS are invited for the ERECTION and COMPLETION OF ONE BLOCK OF 12 FLATLETS for OLD PEOPLE, and ONE WARDEN'S FLAT, together with External Services within and without the curtilage of the building, at the REDEVELOPMENT SITE, Sturry, near Canterbury, Kent.

Copies of the Bill of Quantities and Form of Tender may be obtained from the Council Offices, 41 Old Dover Road, Canterbury, on deposit of a fee of Two Guineas (cheques, postal orders, etc., to be made payable to the Bridge-Blean Rural District Council). The deposit will be refunded only upon receipt of a bona-fide Tender not subsequently withdrawn, and the documents (Bill of Quantities) lent for the purpose of tendering.

Prints of the Drawings may be inspected either at the Office of the Architect, H. V. GODFREY, A.R.I.B.A., MESSRS. GODFREY AND MESSENGER, 63 Oxford Street, Whitstable, or at the Council Offices during normal office hours.

Tenders, in sealed envelopes endorsed "Old People's Dwellings—Sturry," accompanied by the Bill of Quantities and General Summary, must reach the undersigned by not later than 12 Noon on the 12th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

I. F. SOILLEUX,  
Clerk of the Council.

Council Offices,  
41 Old Dover Road,  
Canterbury, Kent.  
12th June, 1961.

## CONTRACTS

## BOROUGH OF WILLESDEN.

RESURFACING OF DUDDEN HILL LANE, N.W.10.

TANFIELD AVENUE TO NORMANBY ROAD.

TENDERS are invited from experienced contractors for the ABOVE WORK, which comprises mainly the Taking-up of an existing Asphalt Surfacing, with minor items of Kerb Removal and Reinstatement, together with the Laying of Asphalt Surfacing over an approx. area of 7,300 sq. yd.

The Contract documents may be obtained from the Borough Engineer and Surveyor, Town Hall, Dyne Road, N.W.6, upon application, accompanied by a deposit of Two Guineas which will be returned upon receipt of a bona-fide Tender not subsequently withdrawn.

Sealed Tenders must reach the undersigned not later than 10 a.m. on TUESDAY, 18th July, 1961.

R. S. FORSTER,  
Town Clerk.

Town Hall,  
Dyne Road,  
Kilburn, N.W.5.  
June, 1961.

## BOROUGH OF WORTHING.

CLEANING OF MAIN SEWER—TOWN CENTRE.

THE CORPORATION invites TENDERS from experienced contractors for the CARRYING OUT OF THE WORK OF CLEANING THE MAIN TRUNK SEWER between Seaview Road and Eriswell Road, and between Brighton Road and Tower Road, Worthing, a total distance of 1,720 yd.

The Sower varies in size from 18 in. dia. to 3 ft. 3 in. x 2 ft. 2 in. and 3 ft. 9 in. x 2 ft. 6 in. egg-shaped, and is at varying depths between 10 ft. and 23 ft.

The work entailed is the Removal and Disposal of all Detritus and Silt from the Invert of the Sewer, and the General Cleaning Down of all Manholes, Lampholes, etc.

General Conditions of Contract, Specifications and Form of Tender may be obtained from the Offices of the Borough Engineer and Surveyor, Town Hall, Worthing, during normal office hours, on deposit of £2 2s. which will be returned on receipt of a bona-fide Tender.

Tenders, in the official envelope provided, endorsed "Tender for Cleaning Sewer," should be delivered to the undersigned, to reach him not later than Midday on TUESDAY, 11th July, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

ERNEST G. TOWNSEND,  
Town Clerk.

Town Hall,  
Worthing,  
9th June, 1961.

## URBAN DISTRICT COUNCIL OF MINEHEAD.

LAYING OF 4 IN. DIA. ASBESTOS-CEMENT WATER MAIN FROM TURNHILL LEA RESERVOIR TO CAMP RESERVOIR.

TENDERS, on a Fixed-price Basis, are invited from experienced contractors for LAYING 680 yd. of 4 in. dia. ASBESTOS-CEMENT WATER MAIN.

Drawings and I.C.E. Conditions of Contract may be seen, and Specification, Bill of Quantities and Form of Tender obtained from the Engineer and Surveyor, Council Offices, 37 Blenheim Road, Minehead, on and after the 19th June, 1961.

Tenders, on the form supplied, to be delivered to the undersigned, in a plain sealed envelope endorsed "Tender for Water Main," not later than Noon on 4th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

F. J. G. SANDERS,  
Clerk of the Council.

Council Offices,  
37 Blenheim Road,  
Minehead, Som.

## SHOREHAM-BY-SEA URBAN DISTRICT COUNCIL.

HIGHWAYS ACT, 1959, PART IX (CODE OF 1892).

RAVENSBOROUGH AVENUE.

The Council invites TENDERS for the MAKING-UP of the ABOVE STREET. The main works involved are as follows: 2,343 sq. yd. of Carriageway Construction; 368 sq. yd. of Footpath Reconstruction; 660 sq. yd. of Footpath Construction; 424 yd. of Kerbing; S.W. Drainage Works, and other ancillary items.

The Contract Drawings and Conditions of Contract may be inspected, and Contract documents obtained, at the Office of the Council's Surveyor, W. H. FRASER, M.I.Mun.E., St. Wilfrid's, Shoreham-by-Sea.

Tenders must be delivered to the undersigned, in plain sealed envelopes endorsed "Private Street Works," and bearing no indication whatsoever of the sender, not later than 12 Noon on THURSDAY, 29th June, 1961.

The Council does not undertake to accept the lowest or any Tender.

R. H. DAVIES,  
Clerk of the Council.

Town Hall,  
Shoreham-by-Sea,  
Sussex,  
June, 1961.

## BEACONSFIELD URBAN DISTRICT COUNCIL.

HOUSING SCHEME NO. 19.

CONSTRUCTION OF ROADS AND FOOTPATHS—THE FERNS, LONDON END, BEACONSFIELD.

TENDERS are invited for the ABOVE-MENTIONED WORKS, which include: (a) The Widening of approx. 85 lin. yd. of existing Carriageway; (b) the Construction of approx. 170 lin. yd. of New Carriageway—Hardcore Base—together with all ancillary Footpath and Drainage Works; and (c) the Construction of approx. 210 lin. yd. of 6 in. dia. G.S.W. Foul and Surface Water Sewers.

The site lies for the most part in the grounds of a property known as The Ferns, and in gardens of some existing council houses adjacent thereto. Copies of the Specification, Bill of Quantities, etc., and the Drawings may be obtained from the undersigned on receipt of a deposit of Two Guineas which will be refunded on receipt of a bona-fide Tender.

All Tenders must be returned to the Clerk of the Council at the address below by 12 Noon on MONDAY, 17th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

F. V. HARRIS, A.M.I.Mun.E.,  
Engineer and Surveyor.

Council Hall,  
Penn Road,  
Beaconsfield,  
Bucks.  
13th June, 1961.

## CONTRACTS

## DEVON COUNTY COUNCIL.

PROPOSED FENCING AT LAMB HILL, ON THE A.38, EXETER-TAUNTON TRUNK ROAD.

TENDERS are invited for the PROVISION and ERECTION OF the FOLLOWING:

- (a) 557 lin. yd. of Oak Post and Rail and Barbed-wire Fencing; and/or
- (b) 360 lin. yd. of Dropper type Concrete Post and Wire Fencing at Lamb Hill, Burescombe, on the A.38.

Full details may be obtained from the County Surveyor, Coover, Topsham Road, Exeter, and Tenders will have to be returned to the Clerk of the County Council, The Castle, Exeter, not later than 10 a.m. on MONDAY, 26th June, 1961.

R. B. CARNEGIE,  
County Surveyor.

## BOROUGH OF WREXHAM.

BUS DRAW-IN AND SERVICE ROAD.

CHESTER ROAD AND KENYON AVENUE.

FIXED-PRICE TENDERS are invited for the CONSTRUCTION of a 'BUS DRAW-IN and SERVICE ROAD, together with Kerbing and Footpath Works. Drawings and General Conditions of Contract may be inspected, and Specification, Bills of Quantities and Forms of Tender obtained from the Borough Engineer and Surveyor, Guildhall, Wrexham, on payment of a deposit of £2 2s. which will be refunded on receipt of a bona-fide Tender.

Tenders must be sealed and delivered to the undersigned by 12 Noon, THURSDAY, 6th July, 1961.

The Council does not bind itself to accept the lowest or any Tender.

PHILIP J. WALTERS,  
Town Clerk.

Guildhall,  
Wrexham,  
June, 1961.

## BOROUGH OF BEXLEY.

SURFACE WATER SEWER WORKS.

TENDERS are invited for the LAYING OF SURFACE WATER SEWERS AT LION ROAD, HEATHFIELD ROAD, IZANE ROAD and FRETA ROAD, Bexleyheath, and ancillary works. The Sewers (Glazed Stoneware and Concrete Tubes) will extend for a total length of approx. 1,200 yd., varying between 9 in. and 21 in. dia.

Drawings may be seen at, and Tender documents obtained from, the Office of the Borough Engineer, West Lodge, Broadway, Bexleyheath, Kent, on payment of a deposit of £2 2s. (by crossed cheque payable to Bexley Corporation) which will be refunded on receipt of a bona-fide Tender not subsequently withdrawn.

Tenders must be delivered to the undersigned at the Council Offices, Bexleyheath, Kent, not later than 10th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

ARTHUR GOLDFINCH,  
Town Clerk.

## FRINTON AND WALTON URBAN DISTRICT COUNCIL.

(A) CLIFF RETAINING WALLS—SOUTHCLIFF PROMENADE, WALTON-ON-THAZEL.

(B) PARAPET COPING—HIGH WALL PROMENADE, FRINTON-ON-SEA.

TENDERS are invited for the ABOVE-MENTIONED WORKS, which consist of the FOLLOWING:

- (a) The Construction of Two Retretments of an approx. total length of 44 yd. in Reinforced Concrete Bored Piles, Precast Planks, together with ancillary works; and
- (b) The Provision of approx. 1,260 lin. yd. of Reinforced Precast Concrete Coping to the Sea Wall, and the Replacement of approx. 2,135 sq. yd. of Promenade with In-situ Reinforced Concrete, together with ancillary works.

Drawings, Specifications, Bills of Quantities and Forms of Tender can be obtained from, and Conditions of Contract inspected at, the Office of the Engineer and Surveyor, The Council House, Old Road, Frinton-on-Sea, on payment of Two Guineas which will be returned on receipt of a bona-fide Tender and the return of all documents.

Tenders should be received by the undersigned not later than First Post on TUESDAY, 11th July, 1961, in a plain sealed envelope bearing no indication of the sender, and endorsed "Retaining Walls—Walton," or "Parapet Copping—Frinton," as the case may be.

J. P. MARR,  
Clerk of the Council.

The Council House,  
Frinton-on-Sea.

## BARROW-UPON-SOAR RURAL DISTRICT COUNCIL.

RATCLIFFE COLLEGE—OUTFALL SEWER.

TENDERS are invited from suitably experienced contractors for the LAYING OF 70 yd. of 6 in. dia. CONCRETE PIPE SEWER, mainly in fields, at Ratcliffe, six miles north of Leicester. Period of Contract: three months.

Key Plan, Specification and Bill of Quantities can be obtained from the Council's Consulting Engineers, MESSRS. PICK, EVERARD, KEAY AND GIMSON, 6 Millstone Lane, Leicester, on payment of a deposit of Two Guineas, refundable on receipt of a bona-fide Tender and the return of documents.

Tenders are to be delivered to the undersigned not later than 10 a.m. on MONDAY, the 17th JULY, 1961. The Council do not bind themselves to accept the lowest or any Tender.

L. R. DOLMAN,  
Clerk of the Council.

Council Offices,  
The Grange,  
31 Fowke Street,  
Rothley, Leics.

## YEovil RURAL DISTRICT COUNCIL.

PUBLIC CONVENIENCES—ILCHESTER, NEAR YEovil.

FIXED-PRICE TENDERS are invited from experienced contractors for the ERECTION OF PUBLIC CONVENIENCES at Ilchester, near Yeovil. Form of Tender, Specification and Drawings may be obtained from the Council's Engineer and Surveyor, 26 Kingston, Yeovil.

Tenders, in plain sealed envelopes endorsed "Public Conveniences—Ilchester," must be delivered to the undersigned not later than THURSDAY, the 20th JULY, 1961.

C. M. BRAMWELL,  
Clerk of the Council.

28 Kingston,  
Yeovil.



## CONTRACTS

## HAMPSHIRE COUNTY COUNCIL.

RECONSTRUCTION OF BLACK BRIDGE,  
ROMSEY, NO. 346A.

TENDERS are invited for the RECONSTRUCTION of BLACK BRIDGE, ROMSEY. The work includes the Provision and Driving of 12in. R.C. Piles in four bents, Provision of Capping Beams and Provision and Erection of Inverted Tee Beams or similar in three 20ft. spans, together with ancillary works.

The existing five-span timber structure is to be demolished.

Applications for further particulars should be submitted to the undersigned by 26th JUNE.

H. N. JENNER,  
County Surveyor.

The Castle,  
Winchester.

## BOROUGH OF REDCAR.

## SUPPLY OF PROTECTIVE CLOTHING.

TENDERS are invited for each of the FOLLOWING ARTICLES OF PROTECTIVE CLOTHING required by the Council for the year 1961/62:

- (1) Gloves.
- (2) Mackintosh Coats.
- (3) Boots and Shoes.
- (4) Overalls and Jackets.
- (5) Donkey Jackets.
- (6) Sleeveless Leather Jerkins.
- (7) Sewermen's Suits.

Forms of Tender and further particulars can be obtained from MR. HUDSON, Chief Public Health Inspector, on conditions to the Health Department, Municipal Buildings, Redcar. These forms must be sent to the undersigned, to arrive not later than 9 a.m. on MONDAY, 3rd July, 1961, in the envelope provided.

The Council do not bind themselves to accept the lowest or any Tender.

HUGH CALDWELL,  
Town Clerk.

Municipal Buildings,  
Redcar.

## CITY OF BIRMINGHAM.

## TO PUBLIC WORKS CONTRACTORS.

## SPEEDWELL ROAD RELIEF SECTOR, HAY MILLS.

THE PUBLIC WORKS COMMITTEE invite TENDERS on a Fixed-price Basis for a Measure and Value Contract for the CONSTRUCTION of approx. 310yd. of 21in. STONEWARE PIPE FOUL WATER SEWER and 100yd. of 18in. STONEWARE PIPE FOUL WATER SEWER, together with incidental works, in Speedwell Road, Hay Mills.

Copies of the General Conditions (which include the Corporation's usual Fair Wages and Conditions of Labour Clause), Supplemental Conditions, Specification, Bills of Quantities and Forms of Tender may be obtained on payment of a deposit of £2.2s. at the Office of SIR HERBERT J. MANZONI, City Engineer and Surveyor, Baskerville House, Civic Centre, Birmingham, 1 (to whom all cheques should be made payable). The deposit will be returned on receipt of a bona-fide Tender. Plans can be seen at Room M.39, Baskerville House, Civic Centre, Birmingham, 1.

Tenders, enclosed in the envelope provided for the purpose, must be sealed and delivered to the Town Clerk's Department (Room No. B.21), Council House, Birmingham, 1, not later than Noon on WEDNESDAY, 12th July, 1961, when they will be opened.

Tenders received after that time will be rejected.

The Committee do not bind themselves to accept the lowest or any Tender.

T. H. PARKINSON,  
Town Clerk.

Council House,  
Birmingham, 1.

## CITY OF BRADFORD.

## 20 AGED PERSONS' FLATLETS—HAWORTH ROAD, BRADFORD.

TENDERS are invited for the ERECTION of the ABOVE.

Forms of Tender and Bills of Quantities may be obtained from the City Engineer and Surveyor, Town Hall, Bradford, on payment of a deposit of Two Guineas, returnable on receipt of a bona-fide Tender.

Tenders, in the envelopes supplied, must be delivered to the undersigned not later than Noon on THURSDAY, 20th July, 1961.

HENRY PATTEN,  
Town Clerk.

Town Hall,  
Bradford, 1.

## CHIGWELL URBAN DISTRICT COUNCIL.

## "CORNER COTTAGE" BEND IMPROVEMENT—VICARAGE LANE, CHIGWELL.

THE Council invite TENDERS for IMPROVEMENT WORKS, comprising approx. 240 lin. yd. Kerbing, 1,500 sq. yd. Trimming and Mowing-up Carriageway, 260 sq. yd. new Footway, Carriageway Drainage and Incidental. Tender Forms, Bills of Quantities and Specification on deposit of £2.2s. (returnable after submission of bona-fide Tender not subsequently withdrawn and return of documents) from Engineer and Surveyor (address below, where Drawings and Contract Conditions may be inspected). Contract will provide for fair wages clause and bond. Tenders, in sealed envelope (provided), bearing no mark indicating sender, to be delivered to the CLERK OF THE COUNCIL, Council Offices, Old Station Road, Loughton, Essex, by 14th JULY, 1961. The Council does not bind itself to accept the lowest or any Tender.

## CAISTOR RURAL DISTRICT COUNCIL.

## TENDERS FOR HOUSING.

The above Council invite contractors who are desirous of submitting TENDERS for the ERECTION and COMPLETION of FOUR FLATS and FOUR MAISONNETTES at HORSEMARKET, Caistor, and TWO HOUSES at CROXBY, and TWO BUNGALOWS at OSGODBY, to send in their names to the Architects, MESSRS. WM. SAUNDERS AND PARTNERS, of 24 Castle Gate, Newark-on-Trent, Notts., of 57 Upgate Louth, Lincs., from whom copies of the Specifications and Bills of Quantities and Conditions may be obtained on payment of £2.3s. which will be returned on receipt of a bona-fide Tender.

Contractors may tender for all or separate sites as desired.

The Council do not bind themselves to accept the lowest or any Tender received, and acceptance is subject to the approval of the Ministry of Housing and Local Government.

Sealed and undelivered Tenders, on forms supplied, must reach the undersigned not later than 12 Noon on TUESDAY, the 11th July, 1961.

C. G. BARR,  
Clerk of the Council.

Council Offices,  
Caistor, Lincs.  
13th June, 1961.

## CONTRACTS

## COUNTY BOROUGH OF WALLASEY.

SMOKE CONTROL ORDER NO. 6—  
SUPPLY OF FIREPLACES, ETC.

TENDERS, to reach the undersigned by 11th JULY, 1961, are invited for the SUPPLY only of the FOLLOWING ITEMS required in connection with the installation in Council houses of fireplaces, grates, etc., in compliance with the above-mentioned Order:—

- (a) 292 Slabbed Tile Fireplaces.
- (b) 292 Wood Surrounds.
- (c) 121 Cement Fondu Fire Interiors with cut-away for back boiler.
- (d) 127 Cement Fondu Fire Interiors without cut-away.
- (e) 121 Block Back Boilers.
- (f) 121 Ironed Concealed Dampers.
- (g) 500 Zenith Fire Grates, complete.
- (h) 26 Zenith Fire Bottoms and Baffles.
- (i) 292 Concrete Lintels.
- (j) 493 Nonflex Safety Gas Fittings.

Offers can be submitted for all or any of the above-mentioned items (a) to (j), as it is intended that each of them will be dealt with as separate contracts or orders, and tenderers should quote on this basis.

Specifications, Drawings where Tenders are to be submitted for items (a) to (j), and Forms of Tender can be obtained from the Borough Architect, Town Hall, Wallasey, and Drawings will be supplied with contract documents only to applicants who specifically state that they are interested in either of these two items.

A. G. HARRISON,  
Town Clerk.

## METROPOLITAN BOROUGH OF CAMBERWELL.

## STREET LIGHTING.

TENDERS are invited for the SUBSTITUTION of approx. 152 UNITS of SODIUM for MERCURY LIGHTING, comprising Group "A" Philips 200-Watt Sodium, Eleco Lantern, and Stewarts and Lloyds Steel Columns. Also for approx. 74 Units of 140-Watt and 85-Watt Sodium Transition Lighting. Documents from BOROUGH ENGINEER, Town Hall, Camberwell, S.E.5. Closing date, FRIDAY, 30th June, 1961.

## BOROUGH OF SOLIHULL.

## PROSPECT LANE (CLASS III) IMPROVEMENT.

FIXED-PRICE TENDERS are invited for the WIDENING and RECONSTRUCTION of PROSPECT LANE, for a distance of approx. 320yd.

The Contract will involve the Realignment of the Carriageway and Reconstruction to a width of 22ft., using Dry Bound Macadam Base, Bitumen Macadam Base Course and Regulating Course, together with Surface Water Drainage, Kerb, Bitumen Macadam Footway Surfacing, Verge, and other incidental works.

The Drawings and Conditions of Contract may be inspected at the Office of the Borough Engineer and Surveyor, 90 Station Road, Solihull, from whom Tender documents may be obtained.

Tenders, in the envelope provided, must be delivered to the undersigned not later than Noon, 7th JULY, 1961.

The Council does not bind itself to accept the lowest or any Tender.

W. MAURICE MELL,  
Town Clerk.

12th June, 1961.

## CITY OF CARLISLE.

## SURFACE DRESSING PROGRAMME, 1961.

TENDERS are invited for the ABOVE.

The work comprises the Tarspraying of approx. 85,000 sq. yd. of Carriageway in approx. 14 streets within Carlisle.

Particulars from CITY SURVEYOR, 18 Fisher Street. Closing date: MONDAY, 3rd July, 1961.

H. D. A. ROBERTSON,  
Town Clerk.

## DORKING URBAN DISTRICT COUNCIL.

GOODWYNS ESTATE—ROADS AND SEWERS—  
CONTRACT VIII.

TENDERS are invited for the CONSTRUCTION of approx. 230 lin. yd. of 6ft. wide FOOTWAY.

Particulars and Form of Tender will be available on application to H. V. KNIGHT, Engineer and Surveyor.

Tenders to be returned to the undersigned not later than Noon on TUESDAY, 11th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

F. G. SUTHERLAND,  
Clerk of the Council.

Council Offices,  
Pipbrook,  
Dorking, Surrey.

## STROUD AND DISTRICT

## SEWERAGE AND COMPOSTING JOINT COMMITTEE.

## STANLEY DOWNTOWN SEWAGE DISPOSAL WORKS.

## EXTENSION SCHEME.

The Committee invite contractors with experience of similar works, who desire to TENDER for the ABOVE-MENTIONED CONTRACT, to submit their names and give full details of such experience, together with the names of three Engineers for whom similar works have been carried out, to the undersigned not later than 30th JUNE, 1961.

The Contract will comprise the Construction of the Undermentioned Works, in accordance with the Drawings, Specification, Bill of Quantities and General Conditions of Contract prepared by MESSRS. W. HERBERT BATEMAN AND PARTNERS, of Bath, the Consulting Engineers to the Committee:

- (1) The Construction in Reinforced Concrete of Two Circular Primary Settling Tanks, capacity 666,666 gallons.
- (2) The Construction in Reinforced Concrete of Two Humus Tanks of 315,000 gallons total capacity.
- (3) The Construction of Nine Circular Filter Beds of 12,800 cu. yd. total capacity.
- (4) The Construction of Three Sludge Drying Beds of 3,046 sq. yd. total area.
- (5) The Construction of a Supernatant Water Pumping Station.
- (6) All ancillary Access Roads, Paths, Site Drains, Alterations and Extensions to existing Channels, etc.
- (7) Foundations for additional Gas Holder.

The Committee reserve the right to select the firms who will be invited to tender, and it is anticipated that the Tender documents will be available to the selected contractors on or about 30th JUNE, 1961.

W. D. WILSON,  
Clerk to the Joint Committee.

Council Chambers,  
High Street,  
Stroud, Glos.

## CONTRACTS

## LINDSEY COUNTY COUNCIL.

## LACEBY-LUDBOROUGH ROAD, B.1431.

## IMPROVEMENT AT SCRUB HOLT, LACEBY.

Separate TENDERS are invited for: (a) FENCING WORKS, and (b) SITE CLEARANCE, EARTHWORKS and DRAINAGE WORKS in connection with the ABOVE.

The Scheme commences approx. 200yd. south of Lacey Cross-roads and extends in a southerly direction for approx. 1,300yd.

- (a) The Fencing Works include the Provision and Erection of approx. 2,275 lin. yd. of Four-rail Lincolnshire type Wooden Fencing.
- (b) The Site Clearance, Earthworks and Drainage include the Uprooting and Disposal of Trees, Stumps and Hedges, Excavation for, and Provision and Laying of approx. 900 lin. yd. of Concrete Pipes and Porous Concrete Pipes, Construction of Manholes, Excavating New Ditches, Cleaning Out Ditches and some 2,500 cu. yd. of Excavation, Hauling and Depositing within the works.

The Drawings may be inspected at the address below during normal office hours (Monday to Friday).

Applications for Contract documents, stating for which Contract (or both), accompanied by deposit of £5 for each set of documents, returnable on receipt of a bona-fide Tender, to following address.

Tenders, in endorsed envelopes provided, bearing no name or mark indicating the sender, to be received by COUNTY SURVEYOR, County Offices, Lincoln, not later than 14th July, 1961.

The County Council do not bind themselves to accept the lowest or any Tender.

## BUCKS. COUNTY COUNCIL.

## HIGHWAYS ACT, 1959—THE CODE OF 1952.

## MEADOW WAY, DORNEY.

TENDERS are invited for the MAKING-UP of the ABOVE STREET. Specification, Form of Tender and Contract and Bill of Quantities may be obtained from the County Surveyor, County Offices, Aylesbury.

Applications must be accompanied by a remittance for £2, which will be refunded on receipt of a bona-fide Tender.

Sealed Tenders must be delivered to the undersigned by MONDAY, 10th July, 1961, in the envelope provided, endorsed "Private Street Works—Meadow Way," but not bearing any name or mark indicating the sender.

The Council do not bind themselves to accept the lowest or any Tender.

R. E. MILLARD,  
Clerk of the Bucks. County Council.

County Hall,  
Aylesbury,  
June, 1961.

## COUNTY BOROUGH OF WALLASEY.

## SECONDARY TECHNICAL SCHOOL FOR GIRLS, LEASOWE.

## HEATING INSTALLATION.

TENDERS, to reach the undersigned by 10th JULY, 1961, are invited for the ABOVE.

Specification and Form of Tender obtainable from the Borough Architect, Town Hall, Wallasey.

A. G. HARRISON,  
Town Clerk.

## BOROUGH OF ALTRINCHAM.

## PRIVATE STREET WORKS—DE QUINCEY ROAD.

TENDERS are invited for the MAKING-UP of the ABOVE ROAD, comprising Footpaths and certain works to the existing Concrete Carriageway.

Specification, Bill of Quantities and Form of Tender may be obtained from, and Drawing inspected at, the Office of the Borough Surveyor, Town Hall, Altrincham, upon payment of a deposit of Two Guineas made payable to the Borough Treasurer.

Tenders must be enclosed in plain sealed envelope endorsed "Private Street Works—De Quincey Road," and delivered to the undersigned not later than 12 Noon on MONDAY, 10th July.

The Council does not bind itself to accept the lowest or any Tender.

E. GRAHAM THOMAS,  
Town Clerk.

Town Hall,  
Altrincham,  
June, 1961.

## BOROUGH OF ROMFORD.

## TENDER FOR THE SUPPLY OF NEW VEHICLES AND PLANT.

TENDERS are invited for the SUPPLY and DELIVERY of the UNDERMENTIONED NEW VEHICLES and PLANT:

- Three Ford Scott. Vans (new model).
- One Wickham Heavy Duty High Pressure Steam Cleaner.

Particulars and Tender Forms may be obtained from the Borough Engineer and Surveyor, Town Hall, Romford, Essex.

Completed Tender Forms to be returned to the TOWN CLERK, Town Hall, Romford, by the 28th JUNE, 1961.

## HEMSWORTH JOINT WATER COMMITTEE.

## WATER SUPPLY EXTENSIONS—PART 4.

## FITZWILLIAM WATER SUPPLY.

## CONTRACT NO. 3.

The COMMITTEE invite FIXED-PRICE TENDERS from experienced contractors for the CONSTRUCTION of approx. Two Miles of 8in. dia. SPUN-IRON CONCRETE LINED WATER MAIN, together with the necessary fittings, etc., within the Hemsworth Urban District in the West Riding of Yorkshire.

Copies of the Drawings, Conditions of Contract, Specification, Bills of Quantities and Form of Tender may be obtained from the Offices of the Engineers, MESSRS. WILCOX, RAIKES AND MARSHALL, 33 Great Charles Street, Birmingham, 3, on or after Monday, 26th June, 1961, on payment to them of a deposit of Five Guineas by cheque drawn in favour of the above Committee. This will be refunded on receipt of a bona-fide Tender and the return of all documents.

Tenders, on the form supplied, together with particulars of experience of similar mainlaying work, are to be delivered to the undersigned, in the envelope provided, not later than 12 o'clock Noon on FRIDAY, 21st July, 1961.

(Signed) F. WRIGHT,  
Clerk of the Committee.

53 Southmoor Road,  
Hemsworth,  
Near Pontefract,  
15th June, 1961.

## CONTRACTS

## BOROUGH OF TAUNTON.

## STAPLESGROVE-OBIDGE LINK WATER MAIN.

FIXED-PRICED TENDERS are invited for the LAYING OF APPROXIMATELY 2,100 yd. of 15in., 12in. and 9in. diameter SPUN-IRON PIPES, with Tyton Joints.

Form of Tender, Specification and Bills of Quantities may be obtained from W. J. WONNACOTT, M.I.C.E., Engineer and Manager, Flook House, Station Road, Taunton, on payment of a deposit of Two Guineas (by cheque only), payable to the Taunton Corporation. Tenders must be sent to me not later than 10 a.m. on WEDNESDAY, 19th July, 1961.

K. A. HORNE,  
Town Clerk.

Municipal Buildings,  
Taunton.

## BOROUGH OF WOOD GREEN.

## EXTENSION OF WATER SUPPLY AT VARIOUS ALLOTMENT SITES.

TENDERS are invited for PLUMBING WORK in connection with the EXTENSION of the WATER SUPPLY at VARIOUS ALLOTMENT SITES in the Borough.

The Drawings may be inspected at, and the Contract documents obtained from, the office of the Borough Engineer, Town Hall, Wood Green, N.22.

Tenders, in plain sealed envelopes endorsed "Tender for Allotment Water Supply," but bearing no name or mark indicating the sender, must be returned to the undersigned not later than 12 Noon on WEDNESDAY, 12th July, 1961.

G. W. PLATER,  
Town Clerk.

Town Hall,  
Wood Green, N.22.

June, 1961.

## BOROUGH OF HYDE.

## HIGHWAYS ACT, 1959—PRIVATE STREET WORKS. (CODE OF 1892.)

## MAKING-UP OF PRIVATE STREET—HYDE.

TENDERS are invited for the MAKING-UP of SLATEACRE ROAD, Hyde.

The work involves the Construction of Carriageways and Footpaths, Kerbing and Surface Water Gullies, etc.

The Drawings may be inspected, and Tender documents obtained, from the Borough Engineer and Surveyor, Municipal Buildings, Greenfield Street, Hyde. Tenders and completed Bill of Quantities, in plain sealed envelopes endorsed "Slateacre Road—P.W.", must be returned to the undersigned not later than First Post on FRIDAY, 30th June, 1961.

JOHN BINNS,  
Town Clerk.

Town Hall,  
Hyde.

## CITY AND COUNTY OF THE CITY OF CHESTER.

## STATION VIEW IMPROVEMENT.

TENDERS on a fixed-price basis are invited for the CONSTRUCTION of approx. 1,100 sq. yd. of new CARRIAGEWAY, 300 sq. yd. of FLAGGED FOOTPATHS, a small REINFORCED CONCRETE RETAINING WALL, the FOUNDATIONS and REINFORCED CONCRETE SUPPORTS to a proposed FOOTBRIDGE and other associated minor works. Tender documents may be obtained from the City Engineer and Surveyor, 49 Northgate Street, Chester, at whose Office the Drawings, Basic Specification and Conditions of Contract may be inspected. Tenders, in a sealed envelope, endorsed "Tender—Station View Improvement," must be returned to the undersigned not later than 12 Noon on SATURDAY, 8th July, 1961.

JOHN BINNS,  
Town Clerk.

## CITY OF CAMBRIDGE.

## CLEANSING OF PUBLIC WATERCOURSES AND DITCHES.

TENDERS are invited for the CLEANSING of PUBLIC WATERCOURSES and DITCHES in the City of Cambridge.

The Ditch Cleansing comprises approx. 1,100 chains of Ditches, 700 lin. yd. of Small Culverts and 400 lin. yd. of Large Culverts, and entails the Removal of all Vegetation, Rubbish, and the annual Deposition of Silt from the Ditch Bottom, and the Trimming and Clearing of the Banks up to ground level.

Tender documents may be obtained from the City Surveyor, Guildhall, Cambridge, on receipt of a deposit of £2 2s. (cheques only to be made out to Cambridge City Council), returnable only on receipt of a bona-fide Tender by 3 p.m. on THURSDAY, 13th July, 1961.

ALAN H. I. SWIFT,  
Town Clerk.

The Guildhall,  
Cambridge.

June, 1961.

## CITY OF PORTSMOUTH.

## EASTNEY OUTFALL—REPAIRS TO DOLPHINS.

TENDERS are invited for CEMENT-GUN REPAIRS TO THREE REINFORCED CONCRETE DOLPHINS at the ends of the SEWAGE OUTFALL at Eastney.

The work consists of the Removal of Deteriorated Concrete and Reinforcement, and its Replacement with New Reinforcement and Cement-gun Concrete.

Tender documents can be obtained from the City Engineer, Municipal Offices, 1 Clarence Parade, Southsea, upon payment of a deposit of £1 which will be refunded upon receipt of a bona-fide Tender and/or the return of all the documents.

Tenders, enclosed in the envelope provided, must be delivered to the undersigned not later than Noon on FRIDAY, 30th June, 1961.

J. R. HASLEGRAVE,  
Town Clerk.

Guildhall,  
Portsmouth.

## HINCKLEY URBAN DISTRICT COUNCIL.

## COVENTRY ROAD INDUSTRIAL DEVELOPMENT SITE.

## CONTRACT NO. 2.

## PUMPING STATION AND RISING MAIN.

The Council invite TENDERS for the CONSTRUCTION of a SEWAGE PUMPING STATION and the LAYING OF APPROXIMATELY 1,000 lin. yd. of CAST-IRON RISING MAIN.

Copies of the Specification, Bills of Quantities and Forms of Tender may be obtained from, and Drawings inspected at, the Office of the Surveyor, Argent House, St. Mary's Road, Hinckley, upon deposit of £2, returnable after receipt of a bona-fide Tender.

Tenders are to be sealed in the envelopes provided and delivered to the CLERK OF THE COUNCIL, 23 Station Road, Hinckley, not later than FRIDAY, 14th July, 1961.

## CONTRACTS

## BOROUGH OF LUTON.

## PRIVATE STREET WORKS.

## MEMORIAL ROAD AND SARUM ROAD.

TENDERS invited for the FINAL MAKING-UP of the ABOVE ROADS. Total lengths of work 400ft. and 360ft., respectively.

Work comprises Construction of Carriageway, Foul and Surface Water Sewers, and incidental works.

Tender documents from Borough Engineer, Town Hall, Luton, on payment of £2 2s. deposit, returnable after receipt of a bona-fide Tender not subsequently withdrawn. Cheques payable Luton Corporation.

Tenders to TOWN CLERK, Town Hall, Luton, by Noon, TUESDAY, 18th July, 1961.

## BOROUGH OF NEATH.

## SHELONE ROAD BRIDGES.

TENDERS are invited from civil engineering contractors for the RECONSTRUCTION and WIDENING of FOUR BRIDGE SPANS over the RAILWAY at SHELONE ROAD, Briton Ferry, together with Widening and Regrading of Approach Roads and Junctions.

The work involves Removal of one Steel Deck, Extensions of existing Abutments, and the Laying of Prestressed Precast Concrete Beams for the New Decks. Roadworks include Kerbing, Footpath Works, and Hot Rolled Asphalt Surfacing.

Plans and General Conditions may be seen, and Specifications and Bills of Quantities obtained from the Borough Engineer, Gwyn Hall, Neath, during normal office hours on payment of a deposit of £2 2s.

Tenders, in plain sealed envelopes endorsed "Shelone Road Bridges," must be received by me not later than 12 Noon on SATURDAY, 15th July, 1961.

The Council does not bind itself to accept the lowest or any Tender.

D. KING DAVIES.

Town Hall,  
Neath.

## CITY AND COUNTY OF NEWCASTLE UPON TYNE.

## THE HOUSING COMMITTEE OF THE CORPORATION

are prepared to receive TENDERS for the ERECTION of PERMANENT BRICK GARAGES on VARIOUS SITES, as follows:

(a) Blakelaw Estate—24 Garages.

(b) Fairways Estate—22 Garages.

(c) Tyne Quarry and Wharrier Street—49 Garages.

Bills of Quantities and Forms of Tender may be obtained on application in writing to the City Architect, 18 Cloth Market, Newcastle upon Tyne, 1, where Plans and Conditions of Contract may be seen. Contractors are asked to state in their application the group or groups for which they desire to tender.

Sealed Tenders must reach the City Architect not later than 10 a.m. on WEDNESDAY, 5th July, 1961. No Tender will be received except the official envelope, which must not bear any name or mark indicating the sender.

The Committee do not bind themselves to accept the lowest or any Tender.

JOHN ATKINSON,  
Town Clerk.

Town Hall,  
Newcastle upon Tyne, 1.

15th June, 1961.

## OUNDE AND THRAPSTON

## RURAL DISTRICT COUNCIL.

## TITCHMARSH SEWERAGE AND SEWAGE DISPOSAL.

TENDERS on a Fixed-price Basis are invited from suitably experienced contractors for the LAYING OF approx. 4,000 yd. of CONCRETE and STONEWARE SEWERS of 18in., 24in. and 36in. dia., the Construction of Sewage Disposal Works, the Laying of House Drainage Connections, and the Reinstatement of Road Surfaces.

Drawings may be seen at the Offices of the Council's Consulting Engineers, PICK, EVERARD, KEAY and GIMSON, 6 Millstone Lane, Leicester, from whom the Specifications and Bills of Quantities may be obtained on payment of a deposit of Five Guineas which will be returned on receipt of a bona-fide Tender and the return of all documents supplied.

Tenders, on the loose form, and in the envelope provided, are to be delivered to the undersigned not later than Noon on the 18th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

H. H. HASSALL,  
Clerk of the Council.

Council Offices,  
Midland Road,

Thrapston.

Kettering.

## MONTGOMERYSHIRE WATER BOARD.

## NANT-Y-GEIFR RESERVOIR, LLANIDLOES.

## RESERVOIRS (SAFETY PROVISIONS) ACT, 1930.

TENDERS are invited for RAISING THE HEIGHT of the DAM, Repairing Defects in By-pass and Wash-out Channels, and other ancillary works, at the ABOVE.

Contract documents can be obtained from the Engineer and Manager to the Board, on payment of a deposit of Five Guineas which will be returned on receipt of a bona-fide Tender.

Drawings may be inspected at the Offices of the Consulting Engineers, MESSRS. WALLACE EVANS AND PARTNERS, Church Bank House, Welshpool.

Tenders, marked "Nant-y-geifr Reservoir," should be forwarded so as to reach the undersigned on or before 15th JULY, 1961.

H. SPEIGHT,  
Engineer and Manager.

County Offices,  
Welshpool.

## CHESHIRE CONSTABULARY.

The POLICE AUTHORITY will consider in October, 1961, applications from firms who wish to be included in the list of those to whom TENDER FORMS will be sent for the SUPPLY of the FOLLOWING:

Policemen's and Policewomen's Summer and Winterweight Uniforms, Greatcoats, Capes, Caps, Shirts, Collars, Shirt Epaulettes, Black Ties, Gloves (cotton and leather), Gaboridine Raincoats and Mackintoshes, Waterproof Eggings, Stockings, Medal Ribbons and Chevrons.

It is intended that Tender Forms will be sent to those firms requesting inclusion on the list for supplies for the years 1962, 1963 and 1964.

Applications should reach this Office by 15th JULY, 1961.

G. E. BANWELL,  
Chief Constable of Cheshire.

County Police Headquarters,  
142 Foregate Street,

Chester.

## CONTRACTS

## COUNTY COUNCIL OF MIDDLESEX.

## ASPHALT SURFACING.

TENDERS are invited for SUPPLYING and LAYING ON VARIOUS COUNTY ROADS in the Central Division of Middlesex approx. 12,000 tons of GRAVEL ASPHALT BASE COURSE and 3,000 tons of HOT ROLLED ASPHALT to B.S.S. 594.

Contract documents can be obtained on payment of £1 (returnable on submission of a bona-fide Tender) from the County Engineer, Middlesex House, Vauxhall Bridge Road, S.W.1.

Tenders are to be delivered to the undersigned, in the envelope to be supplied, by not later than WEDNESDAY, 5th July, 1961.

The County Council does not bind itself to accept the lowest or any Tender.

K. GOODACRE,  
Clerk of the County Council.

## COUNTY BOROUGH OF BRIGHTON.

## WATER DEPARTMENT.

## FALMER PUMPING STATION.

FIXED-PRICE TENDERS are invited from specialist firms for the DEMOLITION, REMOVAL and DISPOSAL of TWO TRIPLE-EXPANSION STEAM ENGINES, the 140ft. high BRICK CHIMNEY, the ENGINE and BOILER HOUSES, together with the COAL STORES and other appurtenant Works.

Conditions of Contract, Specification and Form of Tender obtainable from the Chief Engineer, Brighton Corporation Water Department, 12 Bond Street, Brighton. Deposit of £5 5s. will be refunded on receipt of a bona-fide Tender and return of documents supplied.

Tenders, enclosed in plain sealed envelopes, not bearing any name or mark indicating the sender and endorsed "Tender—Falmer Pumping Station Demolition," to be delivered to me before Noon on MONDAY, 4th September, 1961.

The Corporation do not bind themselves to accept the lowest or any Tender.

W. O. DODD,  
Town Clerk.

Town Hall,  
Brighton.

June, 1961.

## COUNTY BOROUGH OF DUDLEY.

## HALL STREET REDEVELOPMENT.

## STRUCTURAL STEELWORK CONTRACT.

TENDERS are invited for the SUPPLY and ERECTION of STRUCTURAL STEELWORK (150 tons approximately) to form the Frame of New Shops, two and three storeys in height.

The steelwork scheme has been prepared by L. G. MOUCHEL AND PARTNERS, Consultant Engineers, and is under the direction of JOHN T. LEWIS, F.R.I.B.A., Borough Architect, 5 Ednam Road, Dudley.

Drawings, Specifications and Bills of Quantities may be obtained on application to the Borough Architect by WEDNESDAY, 28th June, 1961.

A deposit of £2 2s. is required, which will be returned on the receipt of a bona-fide Tender by a date to be indicated later.

The successful tenderer will be nominated a sub-contractor under the terms and conditions of the R.I.B.A. Form of Contract, and will not be directly under contract to the Corporation.

P. D. WADSWORTH,  
Town Clerk.

The Council House,  
Dudley.

Worcs.

14th June, 1961.

## BOROUGH OF BURY ST. EDMUNDS.

## FIVE HOUSES AND EIGHT FLATS.

## RAINGATE STREET.

TENDERS are invited for the ERECTION of the ABOVE.

Bills of Quantities and Tender Form, for which a deposit of £2 2s. is required, may be obtained upon application to the Borough Engineer and Surveyor at the Borough Offices from Friday, 16th June, 1961.

Drawings may be inspected at the Borough Engineer and Surveyor's Office during normal working hours. Tenders must be returned to the undersigned not later than 9 a.m. on FRIDAY, 7th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

RICHARD R. HILES,  
Town Clerk.

Borough Offices,  
Bury St. Edmunds.

16th June, 1961.

## CITY OF CARLISLE.

## STREET LIGHTING, 1961.

TENDERS are invited for the FOLLOWING WORKS:

(1) Class A Lighting, 1961—Supply and Erection of 40 Steel Lighting Columns, together with Lanterns, 250-watt M/V Lamps, Wiring and Control Gear.

(2) Morton Stage IV—Supply and Erection of 14 Class A Concrete Columns, together with Lanterns, 250-watt M/V Lamps, Wiring and Control Gear, and 48 Class B Concrete columns, Sodium Lanterns, 60-watt Lamps, Wiring and Control Gear.

(3) Class B Gas Conversion and Housing Estates Footpath Lighting, Erection and Wiring of 142 Class B Lighting Units with Steel Columns.

Particulars from City Surveyor, 18 Fisher Street. Closing date, 3rd JULY, 1961.

H. D. A. ROBERTSON,  
Town Clerk.

## CRAWLEY URBAN DISTRICT COUNCIL.

## SURFACE DRESSING PROGRAMME, 1961-62.

TENDERS are invited from firms having suitable equipment for SURFACE DRESSING approximately 44,000 sq. yd. of ROAD during AUGUST-SEPTEMBER, 1961, by means of large capacity Spraying Machines.

Specification and Form of Tender may be obtained from the Engineer and Surveyor, Goffs Park House, Horsham Road, Crawley.

Completed Tenders, in plain sealed envelopes endorsed "Tender for Surface Dressing Programme, 1961-62," but not bearing any name or mark indicating the sender, should be delivered to the undersigned not later than 12 Noon on 4th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

R. W. J. TRIDGELL,  
Clerk of the Council.

Robinson House,  
Robinson Road,

Crawley,

Sussex.

June, 1961.



CONTRACTS

WEST SUSSEX COUNTY COUNCIL.

Public works contractors who wish to be invited to TENDER for ONE or MORE of the UNDER-MENTIONED ROAD IMPROVEMENT SCHEMES should submit their names to the County Surveyor, County Hall, Chichester, in an envelope endorsed "Road Improvement Schemes," not later than 10th JULY, 1961.

- (1) A.24—Pollards Hill to Junction of A.272: Fencing, Earthworks, Drainage, Carriageway Construction, etc., for a new Single 24ft. Carriageway. Approx. length 1,800yd.
- (2) A.29—Bury Hill: Fencing, Earthworks, Drainage, Carriageway Construction, etc., for Realigning and Widening to 33ft. existing Carriageway. Approx. length 400yd.
- (3) A.286—Cooksbridge: Fencing, Earthworks, Drainage, Carriageway Construction and Provision of a 15ft. span Armo Culvert with Headwalls for Realigning and Widening to 24ft. existing Carriageway. Approx. length 300yd.
- (4) A.259—Flensham: Fencing, Earthworks, Drainage, Carriageway Construction, etc., for a new Single 24ft. Carriageway. Approx. length 600yd.
- (5) A.259—Climping: Fencing, Earthworks, Drainage, Carriageway Construction, etc., for Realigning and Widening to 24ft. existing Carriageway. Approx. length 1,200yd.

T. C. HAYWARD,  
Clerk of the County Council.

COUNTY BOROUGH OF PRESTON.

BRANCH LIBRARY AND EIGHT SHOPS WITH 13 MAISONNETTES OVER SAVICK ESTATE.

FIXED-PRICE TENDERS are invited for SUPPLY and ERECTION OF STRUCTURAL STEELWORK for the ABOVE CONTRACT. Drawings may be inspected at the Offices of the Borough Engineer and Surveyor, Municipal Building, Preston, from whom Specification and Bill of Quantities may be obtained on payment of a deposit of £2 2s., returnable on receipt of a bona-fide Tender. Tenders to be received by me not later than 10 a.m., FRIDAY, 14th JULY, 1961.

W. E. E. LOCKLEY,  
Town Clerk.

Municipal Buildings,  
Preston.

BOROUGH OF ECCLES.

TENDERS are invited, returnable to the undersigned not later than 10 a.m. on MONDAY, 3rd JULY, 1961, for SURFACING GARAGE SITES at ELLESMERE PARK with BITUMEN MACADAM AND COLD ASPHALT.

Plans may be seen and documents obtained on application to the Borough Engineer and Surveyor, Town Hall Annex, Irwell Place, Eccles. The Corporation do not bind themselves to accept the lowest or any Tender.

NORMAN MITCHELL,  
Town Clerk.

Town Hall,  
Eccles,  
June, 1961.

BOROUGH OF ECCLES.

TENDERS are invited, returnable to the undersigned not later than 10 a.m. on MONDAY, the 10th JULY, 1961, for the FOLLOWING WORKS:

- (1) Paving and Making-up of:
  - (a) Carriageways and Footpaths in Chatsworth Road (part of) and Westminster Road (part of).
  - (b) Footpaths between Bray Avenue, Dale Avenue and Trevor Road.
- (2) Surfacing to Car Park, Irwell Place, with Bitumen Macadam and Cold Asphalt.
- (3) (a) Footpath Reconstruction.
- (b) Surfacing to Carriageways with Hot Rolled Asphalt of certain District Roads in various parts of the Borough.

Plans may be seen and documents obtained on application to the Borough Engineer and Surveyor, Town Hall Annex, Irwell Place, Eccles. The Corporation do not bind themselves to accept the lowest or any Tender.

NORMAN MITCHELL,  
Town Clerk.

Town Hall,  
Eccles,  
June, 1961.

CITY OF YORK.

STREETS AND BUILDINGS COMMITTEE.

KINGSWAY NORTH - BURTON STONE LANE JUNCTION.

ROADWORKS.

TENDERS are invited for the LAYING of approx. 350yd. of CONCRETE KERB, 1,600 sq. yd. of CONCRETE FLAGGING, together with other ancillary works including Gullies and Connections.

The General Conditions of Contract and Drawings may be inspected at, and the Specification, Bills of Quantities and Form of Tender obtained from, the Office of the undersigned on payment of a deposit of £2 (cheque made payable to York Corporation) which will be refunded upon receipt of a bona-fide Tender not subsequently withdrawn.

The completed Form of Tender shall be delivered to the undersigned, in the official printed Tender envelope, sealed and endorsed "Kingsway North-Burton Stone Lane Junction—Roadworks," not later than Noon on TUESDAY, 11th JULY, 1961.

The lowest or any Tender will not necessarily be accepted.

CHAS. J. MINTER,  
City Engineer, Surveyor and  
Planning Officer.

7 St. Leonard's Place,  
York.

GUILDFORD RURAL DISTRICT COUNCIL.

APPLICATIONS are invited from contractors wishing to receive Specification for MODERNISATION of 12 (Nos. 1-12 inclusive) HOUSES at CLASFORD COTTAGES, Worplesdon.

Specification and Form of Tender may be obtained from the Housing and Valuation Officer on payment of a deposit of £2 2s., returnable upon receipt of a bona-fide Tender. Cheques should be made payable to the Guildford R.D.C. and sent to the Housing and Valuation Officer.

Tenders, in the endorsed envelopes provided, are to be returned to the undersigned not later than 9.30 a.m. on MONDAY, 10th JULY, 1961.

E. W. SELLINGS,  
Clerk of the Council.

Millmead House,  
Guildford,  
14th June, 1961.

CONTRACTS

HERTFORDSHIRE COUNTY COUNCIL.

HIGHWAYS DEPARTMENT.

DEMOLITION OF PROPERTY.

TENDERS are invited for the DEMOLITION of the HORSESHOE CAFE, NEWTONS CORNER, GREAT NORTH ROAD, New Barnet.

This includes Demolition, Removal of all surplus materials, and complete Clearance of Site. Tender documents, returnable by Noon on WEDNESDAY, 12th JULY, 1961, may be obtained from the Office of the COUNTY SURVEYOR, County Hall, Hertford.

HERTFORDSHIRE COUNTY COUNCIL.

LONDON-YORKSHIRE MOTORWAY—M.1 - M.10.

ST. ALBANS BY-PASS.

SPREADING TOPSOIL FOR TREE PLANTING.

TENDERS are invited for EXCAVATION in existing stacks of TOPSOIL, LOADING, HAULING and SPREADING and GRASS SEEDING OVER, on a NUMBER of SITES on the HERTFORDSHIRE SECTION of the MOTORWAY. Over 12,000 cu. yd. of Soil are involved.

Contract documents available from the COUNTY SURVEYOR, County Hall, Hertford, on WEDNESDAY, 28th June, 1961.

Tenders are returnable by 12th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

BOROUGH OF KEIGHLEY.

GRADING AND SOILING AT MARLEY TIP.

TENDERS are invited for the SHAPING of approx. 2 acres of MARLEY TIP and SOILING 8in. thick. The soil to be excavated from a spoil heap in the nearby Marley Sewage Works.

Drawings and General Conditions of Contract may be seen at the Borough Engineer's Office, College Street, Keighley, during normal office hours. Specification and Bill of Quantities, which must be returned fully priced with the Form of Tender, will be forwarded on application.

Sealed Tenders, on the official form and in the envelope provided, and endorsed "Grading and Soiling—Marley Tip," are to be delivered to the undersigned not later than 10 a.m. on THURSDAY, 6th JULY, 1961.

J. A. CAESAR,

Town Clerk.

Town Hall,  
Keighley.

BOROUGH OF REDCAR.

CONSTRUCTION OF PIERSON STREET DEPOT.

TENDERS are invited for the DESIGN, MANUFACTURE and ERECTION OF STEEL or REINFORCED CONCRETE FRAMES, together with Roofing and Cladding, for the FOLLOWING BUILDINGS:

- (1) Paper Bag Works.
  - (2) Garage and Repir Shop.
  - (3) Joiners' Shop.
- Documents may be obtained from the Offices of the Borough Engineer, Ridley House, Coatham Road Redcar, on receipt of a deposit of £2 2s., which will be returned on receipt of a bona-fide Tender.

Tenders may be returned to the undersigned, in the official envelope provided, not later than 10 a.m. on SATURDAY, 15th JULY, 1961.

HUGH CALDWELL,

Town Clerk.

Municipal Buildings,  
Redcar.

CITY OF LEICESTER.

HOUSING COMMITTEE.

Contractors willing to TENDER in October for the ERECTION of 158 THREE-STORY FLATS of Traditional Construction at GLEN PARVA, Leicester, in a firm period of 20 months commencing next January, with a guaranteed output of 12 flats per month after July, 1962, may obtain details of the Contract from the CITY ARCHITECT, Municipal Offices, Charles Street, Leicester.

SKIPTON URBAN DISTRICT COUNCIL.

ALTERATIONS AND EXTENSIONS TO TOWN HALL.

TENDERS invited for WORK at TOWN HALL, Skipton (new Toilet Block, Office Alterations, Committee Rooms, etc.).

Plans, Bills of Quantities, Forms of Tender, etc., obtainable from Engineer, Surveyor and Architect, Town Hall, Skipton (where Contract Drawings and details may be inspected), on receipt of deposit of £2 2s., (refunded on receipt of bona-fide Tender).

Tenders to be in by 5 p.m., 24th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

L. E. SMITH,  
Clerk of the Council.

SKIPTON URBAN DISTRICT COUNCIL.

ERECTION OF SHOPS AND FLATS.

TENDERS invited for ERECTION of BLOCK of 5 SHOPS and 5 FLATS (Two 2-bedroom, three 3-bedroom), together with Lay-by on Trunk Road, and ancillary works.

Bills of Quantities, Forms of Tender, etc., obtainable from Engineer, Surveyor and Architect, Town Hall, Skipton (where Contract Drawings and details may be inspected), on receipt of deposit of £2 2s., (refunded on receipt of bona-fide Tender).

Tenders to be in by 5 p.m., 24th JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

L. E. SMITH,  
Clerk of the Council.

ESHER URBAN DISTRICT COUNCIL.

SUPPLY OF TWO NEW MORRIS CARS AND ONE 15CVT. BEDFORD TRUCK.

TENDERS are invited for the SUPPLY and DELIVERY of TWO MORRIS 1,000 c.c. CARS and ONE 15CVT. BEDFORD TRUCK.

Forms of Tender from the Engineer and Surveyor and Planning Officer, Council Offices, Esher, Surrey. Tenders, on the prescribed forms, enclosed in the envelope provided, endorsed "Tender for Vehicles," and bearing no name or mark indicating the sender, must be addressed to the undersigned and received by him not later than 5 p.m. on FRIDAY, 30th June, 1961.

FREDERICK EDWARDS,

Clerk of the Council.

Council Offices,  
Esher.

13th June, 1961.

CONTRACTS

BOROUGH OF TIPTON.

GOSPEL OAK WATERCOURSE.

TENDERS are invited on a Fixed-price Basis from experienced public works contractors for the CULVERTING of the ABOVE WATERCOURSE for a length of approx. 200 lin. yd. with 45in. dia. Precast Concrete Tubes, together with Brick Manholes and other incidental works.

Drawings and General Conditions of Contract may be seen, and Forms of Tender, Specification and Bill of Quantities may be obtained from the Borough Engineer and Surveyor, Municipal Buildings, Sedgley Road West, Tipton, upon deposit of Two Guineas, to be refunded on receipt of a bona-fide Tender. Cheques are to be made payable to "Tipton Corporation." Tenders to be returned in the envelope provided, not bearing any name or mark to indicate the sender, and must reach the undersigned not later than First Post on WEDNESDAY, 5th JULY, 1961.

The Corporation does not bind itself to accept the lowest or any Tender.

KENNETH W. MADIN,  
Town Clerk.

Municipal Buildings,  
Sedgley Road West,  
Tipton.

CITY OF MANCHESTER.

TENDERS invited for HEATING INSTALLATION and HOT WATER SERVICE BOILERHOUSE PLANT to HOSTEL ELIZABETH GASKELL, ELSTOL F.C. Specifications and Drawings from CITY ARCHITECT, P.O. Box 488, Town Hall.

Tenders returnable by 14th JULY.

BEESTON AND STAPLEFORD URBAN DISTRICT COUNCIL.

CHILWELL VIADUCT.

ASPHALT SURFACING.

TENDERS are invited for SCARIFYING the EXISTING SURFACE and LAYING approx. 3,000 sq. yd. of TWO COURSE HOT ROLLED ASPHALT SURFACING to B.S.S. 594:1958.

Bills of Quantities may be obtained from the Engineer and Surveyor, Town Hall, Beeston, upon payment of a deposit of One Guinea which will be returnable upon receipt of a bona-fide Tender not subsequently withdrawn.

Tenders are to be returned to the undersigned, in plain sealed envelope marked "Tender for Asphalt," not later than Noon on TUESDAY, 4th JULY, 1961.

H. D. JEFFRIES,  
Clerk of the Council.

Town Hall,  
Beeston,  
Nottingham.

FRIERN BARNET URBAN DISTRICT COUNCIL.

STREET LIGHTING IMPROVEMENTS.

TENDERS are invited for the REMOVAL of 88 STEEL COLUMNS, and the ERECTION of 88 GROUP B CONCRETE COLUMNS, together with the installation of Lanterns, Gear, etc.

Documents may be obtained from the Engineer and Surveyor, Town Hall, N.11.

Tenders, in the envelope provided, and bearing no indication of the schedule, to be returned to the undersigned not later than 9 a.m. on TUESDAY, 4th JULY, 1961.

R. S. CLOTHIER,  
Clerk of the Council.

Town Hall,  
N.11.

CREDITON RURAL DISTRICT COUNCIL.

EGGESFORD SEWERAGE AND SEWAGE DISPOSAL.

The Council invite FIXED-PRICE TENDERS from contractors having experience in similar work, for the LAYING of about 250 lin. yd. of 6in. dia. SEWERS, together with Concrete Manholes, and the Construction of a small Sewage Disposal Works.

Tender documents may be obtained from the Council's Consulting Civil Engineers, MESSRS. HARVEY, MCGILL AND HAYES, 8 Richmond Road, Exeter, on and after Friday, 30th June, and at whose Office Plans may be inspected by appointment during normal office hours.

Applications are to be accompanied by a cheque for £5 5s. made payable to the Crediton Rural District Council and, in the case of contractors who have not previously carried out work for the Council or under the direction of the Engineers by particulars of similar work executed, and the names and addresses of the Engineers concerned. The deposit will be returned upon the receipt of a bona-fide Tender not subsequently withdrawn, and the return of all Tender documents.

Tenders are to be delivered in a plain sealed envelope endorsed "Eggesford Sewerage," but bearing no name or mark of identification, to the undersigned not later than 12 Noon on FRIDAY, 21st JULY, 1961.

The Council do not bind themselves to accept the lowest or any Tender they may receive.

A. J. MADGE,

Clerk.

Council Offices,  
Union Terrace,  
Crediton, Devon.

ESSEX RIVER BOARD.

GAUGING FLUMES.

The Board proposes to CONSTRUCT CONCRETE FLUMES for the Gauging of River Flows at the FOLLOWING SITES:

River Stour—Langham (6 miles north of Colchester): Twin-throated Flume in dry channel across loop of river. Principal quantities: Mass and Reinforced Concrete 290 cu. yd.; Earthwork 3,200 cu. yd.

River Blackwater—Rivenhall End (2 miles north-east of Witham): Twin-throated Flume in existing river. Principal quantities: Mass and Reinforced Concrete 210 cu. yd.; Earthwork 2,250 cu. yd.

River Brain—Witham: Concrete Weir in existing stream. Principal quantities: Concrete 105 cu. yd.; Earthwork 1,600 cu. yd.

River Chelmer—Chelmsford: Concrete Weir in dry channel diversion. Low-flow weir in existing Channel. Principal quantities: Concrete 120 cu. yd.; Earthwork 4,000 cu. yd.

Civil Engineering contractors who wish to TENDER for all or any of these works, which are to be carried out simultaneously between July and December, 1961, should submit their names to the Engineer to the Board by the 3rd JULY, 1961. From the names submitted, a panel of contractors will be selected and provided with documents. It is expected that work will commence not later than the end of July.

W. J. S. BEW,  
Clerk of the Board.

## CONTRACTS

## ADMINISTRATIVE COUNTY OF LEICESTER.

## RETAINING WALL—STOUGHTON ROAD, THURNBY.

TENDERS are invited for the CONSTRUCTION of a RETAINING WALL approx. 40yd. long. Contract documents may be obtained from the County Engineer and Surveyor at the address below, on deposit of 25s.

Tenders are to reach the Office of the Clerk of the County Council, Grey Friars, Leicester, not later than 12 Noon on FRIDAY, 17th July, 1961.

J. A. CHATTERTON,  
Clerk of the County Council.

County Offices,  
Grey Friars,  
Leicester.

## COUNTY COUNCIL OF ESSEX.

## CHELMSFORD MOULSHAM COUNTY SECONDARY SCHOOL.

## RE-COVERING FLAT ASPHALT ROOFS.

Contractors wishing to submit a FIRM-PRICE TENDER for the ABOVE should forward their names, from which a panel will be chosen and provided with TENDER documents.

The work consists of Stripping Off and Laying New Asphalt Covering to the Flat Roofs, estimated cost £3,600.

Applications to reach the undersigned not later than 1st JULY, 1961.

H. CONOLLY, C.B.E., F.R.I.B.A.,  
County Architect.

County Hall,  
Chelmsford.

## COUNTY BOROUGH OF NEWPORT.

## BETTWS NEIGHBOURHOOD UNIT.

## ADVANCE PREPARATION WORKS—CONTRACT 3. APPROX. AREA 30 ACRES.

TENDERS are invited for the EXECUTION of the ABOVE WORKS, including Site Clearance, Construction of Stone Pitched Carriageway, Soil and Surface Water Sewers, and ancillary works.

General Conditions, Specifications and Bill of Quantities may be obtained from the Office of the Borough Engineer, Civic Centre, Newport, Mon., on the production of the Borough Treasurer's receipt for £2 2s. which will be returned on receipt of a bona-fide Tender. The Drawings may be inspected at either the Office of the Borough Engineer or at the Office of the Consulting Engineers, MESSRS. W. S. ATKINS AND PARTNERS, 6 Park Place, Cardiff.

Tenders must be enclosed in the envelope provided and endorsed "Bettws—Contract 3," and not bearing any name or mark indicating the sender, should reach the TOWN CLERK not later than 1 p.m. on WEDNESDAY, 12th July, 1961.

## BOROUGH OF HORNSEY.

## SURFACE DRESSING.

TENDERS are invited for the FOLLOWING:

- Supply of approx. 600 tons 1½ in. Red Granite Chippings.
- Supply of approx. 800 tons ¾ in. Slag or Igneous Chippings.
- Supply and Spraying of approx. 1,200 gallons Rubberised Bitumen.

Documents from the Borough Engineer and Surveyor. Closing date: MONDAY, 10th July, 1961.

W. B. MURGATROYD,  
Town Clerk.

Town Hall,  
M.B.

## BOROUGH OF MANSFIELD.

## PRIVATE STREET WORKS.

## CHARWOOD GROVE.

TENDERS are invited for the MAKING-UP OF PART of the ABOVE PRIVATE STREET.

The work consists of Providing and Laying New Kerbs, Water-bound Macadam, Flagging, and some 408 sq. yd. of 3 in. Bituminous Surfacing.

Tender documents can be obtained from E. T. CROWE, B.Sc., A.M.I.C.E., Borough Engineer and Surveyor, Carr Bank, Mansfield, against a deposit of £2 2s. which will be returned upon receipt of a bona-fide Tender.

The Corporation does not bind itself to accept the lowest or any Tender.

Tenders must be returned in the envelope provided, to reach the undersigned not later than 12 Noon, THURSDAY, 13th July, 1961.

A. C. SHEPHERD,  
Town Clerk.

Carr Bank,  
Mansfield.

## LONGRIDGE URBAN DISTRICT COUNCIL.

## PRIVATE STREET WORKS.

TENDERS are invited for MAKING-UP TWO STREETS totalling 16½ yd. length, with Bituminous Macadam Carriageways, Footpaths and Drainage. Applications for Bills of Quantities, etc., to Council Offices, Longridge, Preston, Lancs., with deposit of £2. Tenders must be delivered not later than 17th JULY, 1961.

JAS. M. WHARMBY,  
Clerk of the Council.

## STROUD URBAN DISTRICT COUNCIL.

## STRATFORD PARK SWIMMING POOL.

## DRAINAGE WORKS.

TENDERS are invited for the CONSTRUCTION of the FOLLOWING WORKS:

- 315 lin. yd. approx. 4 in. and 6 in. S.G.W. Pipes, 20 lin. yd. approx. 6 in. C.I. Pipes and Manholes, together with Minor Alterations to the Pool Circulating Pipes.

Drawings, Specification, Bills of Quantities and Form of Tender may be obtained upon application to the Engineer and Surveyor, Council Chambers, High Street, Stroud, Glos.

Tenders in plain sealed envelopes endorsed "Tender for Drainage Works," must be delivered to the undersigned not later than 9 a.m. on MONDAY, 24th July, 1961.

The Council does not bind itself to accept the lowest or any Tender.

W. D. WILSON,  
Clerk of the Council.

Council Chambers,  
High Street,  
Stroud, Glos.

## CONTRACTS

## LANCASHIRE COUNTY COUNCIL.

## TENDERS are invited for the FOLLOWING CONTRACT.

Culverting of Rochdale Canal and Road Improvement, and Demolition of Ben Healey Canal Bridge No. 1534, situated on Canal Street on the Littleborough-Milnrow Road, B.6225, in the Urban District of Littleborough.

Plans and contract documents obtainable from the County Surveyor and Bridgmaster, P.O. Box 9, County Hall, Preston, on deposit of £5, which will be refunded only on receipt of a Tender (not subsequently withdrawn) and the return of all documents and Drawings supplied.

Cheques to be made payable to "Lancashire County Council."

Contractors to quote Reference 173/51. Tenders to be received by the CLERK OF THE COUNTY COUNCIL, County Hall, Preston, not later than 10 a.m. on THURSDAY, 27th July, 1961.

## COUNTY COUNCIL OF DURHAM.

## TENDERS invited for SUPPLY OF PORTABLE TYPEWRITERS to SCHOOLS.

Forms of Tender, returnable by 7th JULY, 1961, and details from undersigned.

G. H. METCALFE,  
Director of Education.

Shire Hall,  
Durham.

13th June, 1961.

## BOROUGH OF HORNSEY.

TENDERS are invited for PAVING and KERBING for the 12 months commencing 1st August, 1961. Apply BOROUGH ENGINEER for tender documents. Tenders to be received by Noon on WEDNESDAY, 5th July, 1961.

## CITY OF ST. ALBANS.

## HOUSING.

TENDERS are invited for the ERECTION OF TWO BLOCKS OF FOUR HOUSES, TWO PAIRS OF BUNGALOWS, SIX GARAGES, and contingent works, on the LONDON ROAD ESTATE, St. Albans.

Bills of Quantities and Form of Tender can be obtained from, and Drawings examined at, the Office of the City Engineer and Surveyor, 16 St. Peter's Street, St. Albans.

Tenders, to be delivered in accordance with directions in Tender documents, to reach the undersigned not later than Midday, THURSDAY, 20th July, 1961.

B. V. ENTWISTLE,  
Town Clerk.

38 St. Peter's Street,  
St. Albans.

## CITY OF MANCHESTER.

TENDERS invited for ALTERATIONS to PUBLIC CONVENIENCE at BARLOW MOOR ROAD, Manchester.

Specification and Drawings from CITY ARCHITECT, P.O. Box 488, Town Hall. Tenders returnable by JULY 12.

## CITY OF MANCHESTER.

## HOUSING COMMITTEE.

TENDERS invited (returnable Noon, 6th JULY, 1961) for DEMOLITION and CLEARANCE of 1,076 PREMISES, including Houses, Shops, Licensed Premises, etc., in the RUSHOLME ROAD, CHORLTON-ON-MEDLOCK CLEARANCE AREA.

Documents obtainable from DIRECTOR OF HOUSING, Town Hall, Manchester, 2.

## CITY OF MANCHESTER.

## HOUSING COMMITTEE.

TENDERS invited (returnable Noon, 27th JULY, 1961) for the ERECTION OF HOUSES, etc., as follows:

CONTRACT 308.—Nuthurst Road, Moston—44 Dwellings.

CONTRACT 353.—Cherry Lane, Bredbury—38 Dwellings.

Particulars and documents from DIRECTOR OF HOUSING, Town Hall, Manchester, 2.

## CITY OF MANCHESTER.

## TRANSPORT DEPARTMENT.

## MODERNISATION OF PRINCESS ROAD BUS DEPOT.

The TRANSPORT COMMITTEE invite TENDERS for the FOLLOWING:—

- (a) For the Supply and Erection of Folding Shutter Gates within the Workshops. The area of openings to be shuttered is approx. 3,425 ft. super., and a proportion of the gates will be electrically operated.
- (b) For the Heating Installation in the Workshops and the Extract Ventilation in the Workshops. The heating system will be medium-pressure hot water supplied from existing gas-fired boilers.
- (c) For the Design and Supply of Reinforcement for the new Sunken Workshop. The work consists of simple slabs and beams.

Tenders will be on a fixed-price basis. Tender documents will be issued on or about the 27th June, 1961, and will be returnable by 10 a.m. on the 11th JULY, 1961.

Firms wishing to tender for this work are asked to submit their names to the General Manager, MANCHESTER CORPORATION TRANSPORT DEPARTMENT, 55 Piccadilly, Manchester, 1.

## CITY OF MANCHESTER.

## TRANSPORT DEPARTMENT.

## MODERNISATION OF PRINCESS ROAD BUS DEPOT.

The TRANSPORT COMMITTEE invite TENDERS for ALTERATIONS and ADDITIONS to the ELECTRICAL SYSTEM in the new WORKSHOPS. The work will include Power and Lighting Installations and the Redistribution of Supplies.

Tenders will be on a fixed-price basis. Tender documents will be issued on or about the 14th August, 1961, and will be returnable by 10 a.m. on the 5th SEPTEMBER, 1961.

Firms wishing to tender for this work are asked to submit their names to the General Manager, MANCHESTER CORPORATION TRANSPORT DEPARTMENT, 55 Piccadilly, Manchester, 1.

## CITY OF LEICESTER.

## PUBLIC CLEANSING DEPARTMENT.

TENDERS are invited for SUPPLYING One David Brown SOTD FRONT SHOVEL, with Accessories to be specified. Particulars may be obtained from the DIRECTOR OF PUBLIC CLEANSING, Jarvis Street, Leicester, by whom Tenders must be received not later than First Post on THURSDAY, July 6th, 1961.

## CONTRACTS

## CITY OF LEEDS.

## HIGHWAYS DEPARTMENT.

The HIGHWAYS COMMITTEE of the LEEDS CITY COUNCIL invite TENDERS for:—

- (a) PRIVATE STREET WORKS—Tarmacadam Footpaths, Tarmacadam Carriageways, etc., in the following: Harrowby Crescent, Harrowby Road (Part), Wycliffe Drive.

- (b) IMPROVEMENT WORKS—

- (i) Excavation, Sub-Soil Drainage and Construction of Concrete Finished Carriageway in Green Lane (Part), Cookridge.

- (ii) Construction of Roundabout with Granular Base, Two-coat Hot Asphalt Surfacing, Kerbing and other works at junction of Oakwood Lane, Foundry Lane and Amberion Road.

Forms of Tender and Bills of Quantities may be obtained upon payment of a deposit of One Guinea, which amount will be returned upon receipt of a bona-fide Tender. Plans, Specifications and copies of the documents forming the contract may be inspected upon application to the Highways Engineer, 155 Kirk-sall Road, Leeds, 4.

Tenders will be considered only when submitted sealed in the envelope provided, endorsed "Highways Department—Tender for Contract Works," and not bearing any name or mark indicating the sender.

Tenders must be delivered at the Town Clerk's Office (Committee Department), Room 57, City Hall, Leeds, 1, not later than 10 a.m. on THURSDAY, the 6th July, 1961.

The lowest or any Tender will not necessarily be accepted.

W. I. HISCOCK,  
Highways Engineer.

June, 1961.

**GENERAL SHOPFITTING AND SUPPLIES, LTD.**, Colchester, London and Bristol, are desirous of contacting small building contractors who would undertake general constructional work and alterations in their own locality, in connection with the company's shopfitting operations. Suitable applicants will be interviewed at their premises. Write in first instance, in confidence, to Managing Director, General Shopfitting and Supplies, Ltd., Bridgefield Gardens, Greenstead Road, Colchester.

**R. J. CARR**, Technical Advisor to the Civil Engineering Industry, acknowledged as the country's foremost ESTIMATOR in private practice. All contracts covered, large or small. All certificates and negotiations engaged upon the development of new methods and techniques in the construction of reservoirs, cut-off trenches, Countrywide service. Offices: 66 Highbury, Newcastle upon Tyne.

For Contracts received too late for classification see page 1521

## APPOINTMENTS VACANT

## BUCKS. COUNTY COUNCIL.

## HIGHWAYS AND BRIDGES DEPARTMENT.

## TRUNK ROAD, A.4.

## SLOUGH-MAIDENHEAD BY-PASS CONTRACT NO. 2.

APPLICATIONS are invited for the APPOINTMENT of an INSPECTOR at a salary in the range £1,000 x £500-£1,100 p.a., for the Resident Engineer's staff engaged on supervisory work on the above contract. Applicants for the appointment should have experience in civil engineering and public works, preferably in regard to roads and bridges.

The appointment is temporary for a period of about two years, and the successful candidate will be based at Slough and will be expected to reside in the vicinity.

The appointment is subject to the Local Government Superannuation Acts and to the successful candidate passing a medical examination. The appointment is subject also to the National Scheme of Conditions of Service for Local Authorities Administrative, Professional, Technical and Clerical Services, and such other conditions as may from time to time be adopted by the Council, and to one month's notice on either side.

If the person appointed provides a motor car for use in connection with his duties he will be paid an appropriate travelling allowance.

The weekly allowance of 25s. and return fare home at intervals of two months may be paid for six months to newly appointed married officers of the County Council unable to find accommodation.

This contract includes some five miles of motorway, five miles of ancillary roads, and 10 major bridges, and will ultimately form part of the South Wales Motorway.

Application Forms and further particulars are obtainable from the County Surveyor, County Offices, Aylesbury, to whom completed forms must be returned by MONDAY, 3rd July, 1961.

R. E. MILLARD,  
Clerk of the County Council.

Aylesbury.

## GLOUCESTERSHIRE COUNTY COUNCIL.

ASSISTANT DIVISIONAL SURVEYOR, Thornbury Division—Office: Alveston, near Bristol. Salary A.P.T. V. Car allowance for car not exceeding 1,399 c.c. Estimated expenditure £300,000. Mileage 31s.

Only Corporate Members of I.C.E. or I.Mun.E. will be considered.

Application Forms available from, and to be returned to, the County Surveyor, Quay Street, Gloucester, not later than MONDAY, 3rd July.

GUY H. DAVIS,  
Clerk of the County Council.

## IRLAM URBAN DISTRICT COUNCIL.

## SEWAGE DISPOSAL WORKS.

## RESIDENT ENGINEER.

APPLICATIONS are invited from suitably qualified persons for the ABOVE POST, to supervise the construction of a sewage disposal works at Cadishead, to serve the above district.

The appointment is expected to commence in August, 1961, and to continue for about 18 months. The salary will be at a rate of £1,250 p.a. plus £200 p.a. subsistence allowance.

Applications, giving details of qualifications, experience and age, together with the names and addresses of three referees, should reach the CLERK OF THE COUNCIL, Irlam U.D.C., Council Offices, Irlam, Manchester, not later than 2nd JULY, 1961.

Interviews will be held at the Offices of the Council's Consulting Engineers, MESSRS. WARD, ASHCROFT AND PARKMAN, of Liverpool.



## APPOINTMENTS VACANT

## LINDSEY COUNTY COUNCIL.

## HIGHWAYS DEPARTMENT.

## LACEBY BY-PASS AND IMPROVEMENT FROM LACEBY TO GRIMSBY.

APPLICATIONS are invited for the FOLLOWING TEMPORARY APPOINTMENTS to assist the Resident Engineer in the supervision of a contract for the construction of about two miles of dual carriageway between Lacey Cross-roads and Grimsby.

- (a) Clerk of Works—Salary up to £1,000 p.a., according to experience, plus payment for approved overtime.
- (b) Inspectors—Salary up to £18 p.w., according to experience, plus payment for approved overtime.

Applicants must have sound knowledge of all aspects of supervision and measuring up of large contracts for earthworks, drainage, modern road-works and bridge construction, and will be required to reside in the Grimsby area. Applicants for appointment (a) must have previously held a similar appointment.

It is expected that the duration of the appointments, subject to satisfactory service, will be about 15 months, terminable by one month's notice on either side.

Application must be made on forms to be obtained from the COUNTY SURVEYOR, County Offices, Lincoln, and must be returned to him by 3rd JULY, 1961.

## OXFORDSHIRE COUNTY COUNCIL.

## COUNTY SURVEYOR'S DEPARTMENT.

## ENGINEERING ASSISTANTS.

APPLICATIONS are invited from suitably qualified candidates for APPOINTMENT as ASSISTANT ENGINEERS in the preparation and supervision of road improvement contracts on Grades A.P.T. I, A.P.T. II and A.P.T. III.

The appointments are permanent and superannuable, and the successful candidates will be required to pass a medical examination.

Applications, in writing, stating age, qualifications and experience, together with the names of three persons to whom reference may be made, should reach the County Surveyor, 8 New Road, Oxford, not later than 7th JULY, 1961.

GERALD GALE BURKITT,

Clerk of the Council.

County Hall,  
Oxford,  
June, 1961.

## COUNTY BOROUGH OF SUNDERLAND.

## SITE AGENT/ENGINEER—£1,310 P.A.

APPLICATIONS are invited for the ABOVE POST for road and sewer contracts. Candidates must have had experience in a similar capacity with either a large civil engineering concern or public body.

Applications, suitably endorsed giving full particulars of age, experience, qualifications, present appointment, and names of two referees, should reach the undersigned at Town Hall, Sunderland, not later than 23rd JUNE, 1961.

G. S. MCINTIRE,

Town Clerk.

## COUNTY BOROUGH OF DARLINGTON.

## BOROUGH SURVEYOR AND WATER ENGINEER'S DEPARTMENT.

## APPOINTMENT OF ASSISTANT ENGINEER.

APPLICATIONS are invited for the APPOINTMENT of an ASSISTANT ENGINEER at an initial salary to be fixed within Grades A.P.T. III and A.P.T. IV, in accordance with the qualifications and experience of the candidate. Preference will be given to applicants who have had experience of large schemes for either main drainage or road reconstruction works.

Housing accommodation can be made available for a married man if required.

Applications, endorsed "Assistant Engineer," and giving names and addresses of two referees, should be delivered to the Borough Surveyor, Town Hall, Darlington, not later than FRIDAY, 30th JUNE, 1961.

C. N. S. NICHOLSON,

Town Clerk.

## BOROUGH OF TWICKENHAM.

## TECHNICAL STAFF.

APPLICATIONS are invited for the FOLLOWING POSTS:

- (a) Senior Assistant Engineer, A.P.T. IV (£1,140-£1,310).
- (b) Planning Assistant, A.P.T. III (£960-£1,140).
- (c) Assistant Architect, A.P.T. I/IV (£645-£1,310).
- (d) Assistant Engineer, A.P.T. I/IV (£645-£1,310).

Posts (a) must have passed the Final of an appropriate examination; (b) commencing salary in accordance with qualifications and experience; (c) and (d) make state commencing salary required if appointed. All plus London Weighting allowance, 5-day week. Canvassing will disqualify, and relationship to members or senior officers should be disclosed.

If married, consideration will be given to the provision of housing accommodation; assistance with removal expenses.

Applications, giving age, experience, etc., to the Borough Engineer, Municipal Offices, Twickenham.

W. H. JONES.

## BOROUGH OF MANSFIELD.

## BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING VACANCIES in the Borough Engineer and Surveyor's Department:

- (1) One Senior Engineering Assistant—A.P.T. Grade IV.
- (2) Two General Engineering Assistants—A.P.T. Grade III/IV, commencing salary according to experience.

Applications, stating age, training, qualifications, present and past appointments, experience, and names of three referees, should be sent to the Borough Engineer and Surveyor, Carr Bank, Mansfield, appropriately endorsed, not later than MONDAY, 3rd JULY, 1961.

Applicants for (a) must be members of the Institution of Civil Engineers or the Institution of Municipal Engineers, and for (b) suitably qualified. The Council prefer that the successful applicants should live within the Borough after appointment.

Houses on service tenancies are available.

A. C. SHEPHERD,

Town Clerk.

Carr Bank,  
Mansfield.

## APPOINTMENTS VACANT

## A D E N.

## PUBLIC WORKS DEPARTMENT.

## ENGINEER (WATER).

Qualifications: Candidates must have a University Degree, or equivalent, recognised by the Institution of Civil Engineers or have passed, or be otherwise exempt from, Parts I and II of the Final Examinations of the Institution of Civil Engineers; and have had at least five years' practical experience. It would be an advantage to have experience in maintaining, installation of machinery, and the operation and maintenance of a water supply.

Duties: To assist the Waterworks Engineer on a £500,000 development scheme, and in the operation of the existing water undertaking.

Terms of Appointment: On contract for one tour of 18-24 months in the first instance, with gratuity on satisfactory completion of engagement of 12½ per cent. of aggregate salary drawn.

Emoluments: In Scale £1,232-£2,004 p.a. Salary increases are shortly expected on the recommendation of a Commission which has recently reported.

Free passages. Generous home leave. Education and children's allowances. Taxation at local rates.

Apply DIRECTOR OF RECRUITMENT, Colonial Office, London, S.W.1, quoting BCD112/2/021/D14, and giving full name, age, and brief details of qualifications and experience.

## NORFOLK COUNTY COUNCIL.

## HIGHWAYS DEPARTMENT.

APPLICATIONS are invited for the POST of ENGINEERING ASSISTANT for bridge design work. Preference will be given to Associated Members of the Institution of Civil Engineers or the Institution of Structural Engineers, or an equivalent qualification. Candidates should have had experience in the design of bridges, both in reinforced concrete and structural steel, and should be good Draughtsmen.

The salary scale and the starting point on that scale will be according to qualifications and experience, with a maximum of Grade IV (£1,140 to £1,310).

The appointment will be on the permanent establishment of the Department, terminable by one month's notice on either side. The provisions of the Local Government Superannuation Acts, 1937 to 1953, apply. The successful candidate will be required to pass a medical examination. Grant towards removal expenses, 5-day week.

The National Joint Council Service Conditions apply in general.

Further particulars and Application Forms obtainable from the COUNTY SURVEYOR, County Offices, Thorpe Road, Norwich, Norfolk, NR2 4TA.

Latest date for completed Application Forms: 15th JULY, 1961.

## COUNTY BOROUGH OF BOOTLE.

## APPOINTMENT OF PUBLIC HEALTH INSPECTOR.

APPLICATIONS are invited for the ABOVE APPOINTMENT from qualified Public Health Inspectors.

The commencing salary to be determined according to experience. N.J.C. Scale plus £40 Industrial Award.

An additional sum of £55 p.a. will be paid if in possession of an approved Smoke Inspector's Certificate.

A cycle allowance is payable.

Housing accommodation will be provided if necessary.

The appointment will be subject to the National Scheme of Conditions of Service, and the Local Government Superannuation Acts.

The successful applicant must pass a medical examination.

Applications, stating age, qualifications, experience, etc., together with the names of two persons to whom reference may be made, must be received by the Medical Officer of Health, 12 Trinity Road, Bootle, 20, Lancs., not later than 3rd JULY, 1961.

HAROLD PARTINGTON,

Town Clerk.

Town Clerk's Office,  
Town Hall,  
Bootle,  
12th June, 1961.

## BOROUGH OF EALING.

SURVEYING ASSISTANT for civil engineering surveys. A.P.T. II (£855-£1,000 inclusive). 5-day week.

Application Forms, with full particulars and conditions of service, from Borough Surveyor, Town Hall, Ealing, W.5. Closing date: 10th JULY, 1961.

E. J. COPE BROWN,

Town Clerk.

Town Hall,  
Ealing, W.5.

## CITY OF CARDIFF.

## CORPORATION WATERWORKS.

## APPOINTMENT OF ENGINEERING ASSISTANT.

APPLICATIONS are invited for the PERMANENT APPOINTMENT of ENGINEERING ASSISTANT, A.P.T. Grade IV (£1,140-£1,310 p.a.).

Candidates for the post should have passed Parts I and II of the Examination of the Institution of Civil Engineers, or obtained a University Degree in Civil Engineering, and have completed two years' practical training.

Housing accommodation and a car allowance on the Corporation scale will be available.

General Conditions of Appointment can be obtained from the Water Engineer and Manager, Municipal Offices, Greyfriars Road, Cardiff.

Applications, stating age, previous experience and qualifications, together with the names of two referees, should reach the undersigned, in envelopes endorsed "Engineering Assistant—Waterworks," not later than WEDNESDAY, 12th JULY, 1961.

S. TAPPER-JONES,

Town Clerk.

City Hall,  
Cardiff,  
12th June, 1961.

## COVENTRY CORPORATION.

## INSPECTORS FOR MAIN DRAINAGE CONTRACTS.

INSPECTORS are required for general duties under the Resident Engineer including the supervision of pipelaying both in open cut and tunnel, and also reinforced concrete and brickwork construction, etc., in connection with the carrying out of a large programme of main drainage works.

Applicants should have had experience in a similar capacity, and possess a sound background as a craftsman in connection with public works construction. Salary within Misc. Grades IV/V (£625-£760), according to experience.

Application Forms, from CITY ENGINEER, Council House, Coventry, returnable by 3rd JULY, 1961.

## APPOINTMENTS VACANT

## BASUTOLAND.

## PUBLIC WORKS DEPARTMENT.

## HYDROLOGIST.

Qualifications: Candidates under 35 years of age must either have a University degree or equivalent recognised by the Institution of Civil Engineers, or have passed, or be otherwise exempt from parts I and II of the final examinations of the Institution of Civil Engineers (with the subject hydraulics). It would also be an advantage if candidates had had a post graduate course in hydrology at London University, and had two years' or more hydrological experience in the field.

Duties: To include hydrological investigations for the proposed Oxbow Lake hydro-electric scheme, and to prepare for an overall hydrological survey of Basutoland.

Terms of Appointment: Contract for one tour of 36-48 months in the first instance, with gratuity of 12½ per cent.

Emoluments: Consolidated salary in Scale £928-£1,848 per annum. Free passages. Generous leave. Free medical attention. Taxation at local rates.

Apply DIRECTOR OF RECRUITMENT, Colonial Office, London, S.W.1, quoting B.C.D.112/76/015/D.14, your full name, age and brief details of qualifications and experience.

## COUNTY BOROUGH OF BURY.

## APPLICATIONS are invited for the FOLLOWING APPOINTMENTS:

- (a) Senior Assistant Architect, A.P.T. IV (£1,140-£1,310).
- (b) Assistant Architects (Two), A.P.T. I or II or III (£645-£815 or £815-£960 or £960-£1,140).
- (c) Senior Assistant Planning Officer, A.P.T. IV (£1,140-£1,310).
- (d) Town Planning Draughtsman, Misc. III (£555-£625).
- (e) Temporary Civil Engineering Clerk of Works (Two), Misc. VI (£760-£825).

Appointments (a), (b), (c) and (d) are permanent, and the commencing salary for all the appointments will be fixed according to qualifications and experience.

Applicants for appointment (a) should be experienced in dealing with contracts for large public works, and must be professionally qualified.

Applicants for appointment (b) should have general experience in the design and construction of public buildings, and success in Part I or Part II of the R.I.B.A. Final or Special Examination, or other equivalent at one of the recognised schools of architecture will entitle the applicant to appointment on A.P.T. III.

Applicants for appointment (c) should be experienced in either development control or redevelopment and research projects, and should be professionally qualified.

Applicants for appointment (d) should have had experience in drawing office procedure, and preferably in a town planning office.

Applicants for appointment (e) should have had either experience in dealing with contracts for large sewerage schemes and reinforced concrete works, the duration of this appointment being for 18-24 months, or capable of dealing with large contracts covering all aspects of sewerage works construction. In this instance, the duration of the first contract is approx. six months, but it is possible that this appointment will be extended for a period of up to five years until the completion of the first stage extensions.

Consideration will be given to the provision of housing accommodation.

Applications, stating age, qualifications, experience, present and previous appointments, and salary, together with the names of two referees, must reach me by the 24th JULY, 1961.

EDWARD S. SMITH,

Town Clerk.

Town Hall,  
Bury,  
8th June, 1961.

## COUNTY BOROUGH OF PRESTON.

## APPOINTMENT OF CLERK OF WORKS, MISC. VII (£825-£880 P.A.).

APPLICATIONS are invited for the ABOVE PERMANENT APPOINTMENT in the Borough Engineer and Surveyor's Department from persons with suitable experience in the supervision of large contracts for schools, housing and general works.

Applications, stating age, present position and salary, previous positions, qualifications, and details of experience, together with the names and addresses of two referees, to be received by me not later than FRIDAY, 30th JUNE, 1961.

W. E. E. LOCKLEY,

Town Clerk.

Municipal Building,  
Preston.

## CITY OF BIRMINGHAM.

## PUBLIC WORKS DEPARTMENT.

## STRUCTURAL ENGINEERS.

## APPLICATIONS are invited for the FOLLOWING POSTS:

- (a) Structural Engineer, Grade A.P.T. V (£1,310-£1,480).
- (b) Structural Engineers, Grade A.P.T. IV (£1,140-£1,310).
- (c) Structural Engineers, Grade A.P.T. II (£815-£960).
- (d) Junior Structural Engineers, Grade A.P.T. I (£665-£835).
- (e) Structural Draughtsman, Grade A.P.T. I (£665-£835).

The candidates for posts (a) and (b) must be Corporate Members of the Institution of Civil Engineers or the Institution of Structural Engineers, and have considerable experience in structural design and building construction. The successful applicants will be engaged upon the checking of designs in reinforced concrete and structural steelwork submitted in accordance with the byelaws.

Candidates for posts (c) and (d) must hold a Higher National Certificate or equivalent qualification, and have good experience in structural design and building construction, and will be engaged upon the design and detailing of reinforced concrete and structural steelwork.

Candidates for post (e) should hold an Ordinary National Certificate and have had good experience in structural draughtsmanship.

The posts are permanent, superannuable, and subject to medical examination. Applications, stating age, qualifications, experience, and naming two referees, should be received by the undersigned not later than 8th JULY, 1961.

Canvassing disqualifies.

HERBERT J. MANZONI,

City Engineer and Surveyor.

Baskerville House,  
Civic Centre,  
Birmingham, 1.

## APPOINTMENTS VACANT

### NYASALAND.

#### PUBLIC WORKS DEPARTMENT.

#### EXECUTIVE ENGINEERS.

Qualifications: Candidates (aged 24-35) must either have a University Degree, or equivalent, recognised by the Institution of Civil Engineers, together with two years' subsequent practical experience; or have passed, or be otherwise exempt, from Parts I and II of the Final Examinations of the Institution of Civil Engineers, and have had not less than five years' practical experience.

Duties: The investigation, survey, design and construction by contract or departmentally, of roads, bridges, airfields, water supplies or sewerage works. Officers may be employed either at department headquarters, in a Provincial Engineer's office or on a construction site.

Terms of Appointment: Contract for three years, with gratuity at the rate of 15 per cent.

Emoluments: In scale £1,270-£1,950 p.a. plus 5 per cent. allowance.

Free passages. Generous home leave.

Apply DIRECTOR OF RECRUITMENT, Colonial Office, London, S.W.1, quoting BCD12/4/02 D14, giving full name, age, and brief details of qualifications and experience.

### LANCASHIRE COUNTY COUNCIL.

APPLICATIONS are invited from suitably qualified ENGINEERING ASSISTANTS for vacancies on Grades A.P.T. III (£960-£1,140) and A.P.T. IV (£1,140-£1,310), in the County Surveyor's Department at Preston, in connection with large-scale road and bridge schemes, drainage and sewerage work, soils mechanics, and private street works.

The commencing salaries will be in accordance with qualifications and experience.

Applications, stating the Grade applied for, and quoting Ref. No. 121/12, names and addresses of two referees, and details of qualifications and experience, to be delivered to the COUNTY SURVEYOR, P.O. Box No. 9, County Hall, Preston, by not later than the 6th JULY, 1961.

### METROPOLITAN BOROUGH OF POPLAR.

ENGINEERING ASSISTANTS (2) REQUIRED by Poplar Borough Council. Salary scale £815-£960 p.a. plus Weighting. Commencing salaries in accordance with qualifications and experience.

The appointments provide ample scope for variety of civil engineering work on roads, sewers, public lighting, street furniture and installations, and drawing office duties.

Application Forms obtainable from BOROUGH ENGINEER AND SURVEYOR, Poplar Town Hall, Bow Road, E.3. Closing date: First Post, 10th JULY, 1961.

### CITY OF NOTTINGHAM.

#### WATER DEPARTMENT.

#### APPOINTMENT OF CLERK OF WORKS (PERMANENT).

APPLICATIONS are invited from persons with a good experience of reinforced concrete work, and preferably of water-retaining structures, for the PERMANENT PENSIONABLE APPOINTMENT OF CLERK OF WORKS. Salary, according to experience, in Grade A.P.T. I, viz., £645-£815. The successful candidate should possess a car, in respect of which a casual user allowance will be paid.

Applications, with names of two persons to whom reference may be made, to Engineer and General Manager, Water Department, Castle Boulevard, Nottingham, not later than 3rd JULY.

T. J. OWEN,  
Town Clerk.

The Guildhall,  
Nottingham.

### PAIGNTON URBAN DISTRICT COUNCIL.

#### ENGINEERING ASSISTANT—A.P.T. I.

APPLICATIONS are invited for the POST of ENGINEERING ASSISTANT in the Engineer and Surveyor's Department, with experience in the work of a Municipal Engineer's Department.

The salary will be within A.P.T. I (£645-£815), and the appointment will be subject to the Local Government Superannuation Acts, and one month's notice on either side.

Application Form will be supplied on request to Engineer and Surveyor, Municipal Offices, Oldway, Paignton.

Applications to be received by 6th JULY, 1961.  
SAMUEL HODSON,  
Clerk of the Council.

### PAIGNTON URBAN DISTRICT COUNCIL.

#### ENGINEER AND SURVEYOR'S DEPARTMENT.

#### MAIN DRAINAGE—CONTRACT NO. 1.

The following TEMPORARY STAFF is required:  
Clerk of Works: Salary £20 per week.

General Clerk: Salary £14 per week.

The works comprise 66in. storm water sea outfall, 66in. to 30in. main foul and storm sewers, and appurtenant works. Approx. cost £300,000. Contract term 18 months. Other contracts to follow.

Application Forms, obtainable from the Engineer and Surveyor, Municipal Offices, Oldway, Paignton, to be returned to him by not later than 10 a.m. on 12th JULY, 1961.

SAMUEL HODSON,  
Clerk of the Council.

Oldway,  
Paignton.

### SUNDERLAND EDUCATION AUTHORITY.

#### TECHNICAL COLLEGE.

APPLICATIONS are invited for POSTS of LECTURER IN CIVIL ENGINEERING. Candidates must have a Degree in Civil Engineering, preferably with Honours, and good industrial or research experience. Membership of a professional institution and/or previous teaching experience are very desirable. Duties will be principally concerned with teaching Diploma in Technology and Honours Degree students. Salary Scale: £1,370 to £35 to £1,550 (at present under review).

Application Forms, obtainable from the Registrar, The Technical College, Sunderland, should reach the undersigned not later than MONDAY, 3rd JULY.

The Education Authority is prepared to help successful candidates with removal expenses, lodging allowance and house purchase.

Canvassing disqualifies.

W. THOMPSON,  
Director of Education.

Education Offices,  
15 John Street,  
Sunderland.

## APPOINTMENTS VACANT

### CENTRAL ELECTRICITY GENERATING BOARD.

#### MIDLANDS PROJECT GROUP.

#### TEMPORARY INSPECTORS (CIVIL).

#### SIZEWELL NUCLEAR POWER STATION.

APPLICATIONS are invited from suitably qualified persons for the APPOINTMENT of TEMPORARY INSPECTOR (CIVIL) at Sizewell Nuclear Power Station, Suffolk.

Candidates should have a sound knowledge of reinforced concrete construction and civil engineering works.

Previous public works experience would be an advantage.

The salary will be within Grade 10, Scale £1,070-£1,325 per annum, Schedule C of the National Joint Board Agreement.

Applications should be made on standard form A66, available from the ADMINISTRATIVE OFFICER, Midlands Project Group, P.O. Box 314, Birmingham, 30, and should be returned to him not later than 10th JULY, 1961.

Envelopes should be marked "Confidential—Staff Vacancy No. MPPG42/61."

### CENTRAL ELECTRICITY GENERATING BOARD.

#### MIDLANDS PROJECT GROUP.

#### FOURTH ASSISTANT ENGINEER (CIVIL).

APPLICATIONS are invited for the APPOINTMENT of FOURTH ASSISTANT ENGINEER (CIVIL) in the Midlands Project Group.

Applicants should have been trained in an engineering office and have good experience in the design and construction of civil engineering works. Some experience in billing, measuring and estimating is also desirable. They should preferably hold an appropriate qualification.

The salary will be within Grade 10, Scale 10 (£1,070-£1,325 per annum).

Applications should be made on standard form A66, available from the ADMINISTRATIVE OFFICER, Midlands Project Group, P.O. Box 314, Birmingham, 30, and should be returned to him not later than 10th JULY, 1961.

Envelopes should be marked "Confidential—Staff Vacancy No. MPPG45/61."

### CUMBERLAND COUNTY COUNCIL.

#### HIGHWAYS AND BRIDGES DEPARTMENT.

APPLICATIONS are invited for the FOLLOWING APPOINTMENT on the Technical Headquarters Staff of the County Surveyor and Bridgemaster at Carlisle: Senior Assistant Engineer (Bridges)—Salary within A.P.T. Grades IV V (£1,140-£1,480 per annum).

Candidates must be qualified Civil Engineers, trained and experienced in the design, preparation and construction of major bridge works and bridge maintenance and improvement schemes. Previous experience of such works in a County Surveyor's Department will be an advantage.

The person appointed will be offered the tenancy of a modern two-bedroom house situated at Wetherall, about five miles from Carlisle.

Further particulars and Forms of Application are obtainable from the County Surveyor and Bridgemaster, Citadel Chambers, Carlisle, to whom completed applications should be returned not later than WEDNESDAY, 5th JULY, 1961.

G. N. C. SWIFT,  
Clerk of the County Council.

The Courts,  
Carlisle.

### COUNTY BOROUGH OF NEWPORT.

APPLICATIONS are invited for the FOLLOWING APPOINTMENTS in the Borough Engineer's Department:

#### Engineering Assistants:

(a) Chief Assistant Engineer (Main Drainage)—Scale "B" (I) (£1,445-£1,670).

(b) Two Principal Assistant Engineers—Scale "A" (I) (£1,395-£1,565).

(c) Two Engineering Assistants—Grade A.P.T. III IV (£960-£1,310).

(d) Two Engineering Assistants—Grade A.P.T. II (£815-£960).

(e) One Engineering Assistant—Grade A.P.T. I (£645-£815).

#### Planning Assistant:

Planning Assistant—Grade A.P.T. III IV (£960-£1,310).

Applicants will be expected to have appropriate qualifications as specified in the Scheme of Conditions of Service.

The appointments mentioned in (a), (b) and (d) are mainly in connection with large main drainage schemes in the Borough. Applicants for appointments (a) and (b) should have considerable experience in such works, and varied experience in structural design work will be an advantage in the case of one of the appointments in Scale "A."

The commencing salary for each appointment will be at any point within the appropriate grades, depending upon experience.

A 5-day working week is in operation.

Provision of housing accommodation for the senior posts will be considered. Approved furniture removal expenses will be paid.

Applications, with copies of two recent testimonials, should reach the BOROUGH ENGINEER, Civic Centre, Newport, Mon., by the 10th JULY, 1961.

### LINSLADE URBAN DISTRICT COUNCIL.

#### WATER SUPPLY.

The above-named Council REQUIRE a RESIDENT ENGINEER to supervise the above work under the direction of their Consulting Engineers, MESSRS. D. BALFOUR AND SONS, M.M.I.C.E., 131 Victoria Street, Westminster, S.W.1.

The works comprise the laying of about 2,000yd. of 9in., 7in. and 6in. spun-iron water mains, with valves and other fittings, and about 300yd. of 6in. spun-iron and salt-glazed stoneware sewers, with manholes, etc., the construction of a small reinforced concrete reservoir, filter house, and the installation of pumping and filter plant.

The construction of the works is likely to commence in September, and the Contract period will be about one year. Salary from £1,200-£1,500 per annum, depending upon age and experience, with car allowance paid on standard scale.

Applications from candidates who must have had similar experience should be sent to the Consulting Engineers, giving full details of name, age, previous experience with names and addresses of the Engineers concerned.

P. J. UPHILL,  
Clerk of the Council.

6 Leighton Road,  
Linslade,  
Leighton Buzzard,  
Beds.

## APPOINTMENTS VACANT

### HERTFORDSHIRE COUNTY COUNCIL.

#### HIGHWAYS DEPARTMENT.

APPLICATIONS are invited from candidates with experience in civil engineering or building trades for APPOINTMENT as CLERK OF WORKS on road improvement schemes. Salary £16 to £18 15s. per week.

Successful candidate should possess car or motor cycle, for which appropriate allowances will be paid. Applications, giving details of experience and age, together with the names of two referees, to the COUNTY SURVEYOR, County Hall, Hertford, not later than 29th JUNE, 1961.

### METROPOLITAN BOROUGH OF ISLINGTON.

#### BOROUGH ENGINEER AND SURVEYOR'S DEPARTMENT.

APPLICATIONS are invited from persons not more than 50 years of age for the FOLLOWING APPOINTMENTS:

#### Engineering Staff (Permanent):—

(a) One Senior Engineering Assistant, A.P.T. V (£1,310-£1,480 per annum).

(b) One Engineering Assistant } A.P.T. III

(c) Two Surveying/Technical } (£960-£1,140 per annum).

All plus London Weighting.

Applicants for (a) should be members of the Institution of Civil or Municipal Engineers, or hold other appropriate qualifications, and be suitably experienced; (b) should be qualifying for examinations as in (a), and be suitably experienced;

(c) should have the Intermediate Examination of the Municipal Engineers or Chartered Surveyors, or other appropriate qualifications, and preference will be given to applicants with a sound knowledge of the Town and Country Planning Acts and London Building Acts.

Application Forms, returnable by First Post on MONDAY, 10th JULY, 1961, obtainable from C. N. CONWAY, Borough Engineer and Surveyor, Town Hall, Upper Street, N.1.

H. DIXON CLARK,  
Town Clerk.

### BOROUGH OF SUTTON AND CHEAM.

APPLICATIONS are invited for the FOLLOWING PERMANENT and SUPERANNUABLE POSTS:

(a) Two Civil Engineers, A.P.T. V (£1,310-£1,480 p.a.) plus London Weighting £45 p.a. An interesting programme of engineering work, sewerage and sewage disposal, development of industrial sites, roadworks and depots is in hand. Applicants must be suitably qualified.

(b) One Assistant Engineer, A.P.T. II IV (£815-£1,310 p.a.) plus London Weighting as above. Appropriate commencing salary according to ability and experience. Entry to Grade A.P.T. IV conditional upon qualification.

The Council will allow part-time day release for an appointment within Grade A.P.T. II for attendance at an approved course of study.

Housing accommodation will be considered if required.

Application Forms, stating for which appointment required, from C. NEEDHAM, M.I.C.E., M.I.Mun.E., A.M.I.Struct.E., Borough Engineer and Surveyor, to be returned with two recent testimonials not later than 4th JULY, 1961.

Canvassing will disqualify.

A. PRIESTLEY,  
Town Clerk.

Municipal Offices,  
Sutton, Surrey.

### THAMES VALLEY WATER BOARD.

#### ENGINEERING ASSISTANT—GRADE A.P.T. IV (£1,140-£1,310).

APPLICATIONS are invited from suitably qualified persons for the ABOVE APPOINTMENT.

Applicants should be Chartered Civil Engineers with some years of experience of water supply engineering.

The Board is responsible for the water supply over a large area of Berkshire and South Oxfordshire, and has a large programme of capital works involving the development of new boreholes, pumping stations, modernisation of existing stations, and the design and construction of new reservoirs, water towers and trunk mains.

The appointment is subject to the National Scheme of Conditions of Service, the Provisions of the Local Government Superannuation Acts, 1937-53, and the passing of a medical examination.

Applications, stating age, qualifications and experience, together with the names and addresses of two referees, should be sent to the Engineer and Manager, 16-20, The Forebury, Reading, not later than the 17th JULY, 1961.

O. KEAN, M.I.C.E., M.I.Mech.E.,  
M.I.W.E.,  
Engineer and Manager.

### OXFORD REGIONAL HOSPITAL BOARD.

APPLICATIONS are invited for a TEMPORARY POST as RESIDENT ENGINEER to supervise the mechanical and electrical services of a large hospital building contract in Kettering, Northants.

Membership of a Professional Institution would be an advantage. Salary £1,050 p.a.

Applications, giving details of age and previous experience, and names of two persons to whom reference may be made, should be sent to the SECRETARY, Oxford Regional Hospital Board, 43 Banbury Road, Oxford, by First Post on 10th JULY, 1961.

### OXFORD REGIONAL HOSPITAL BOARD.

APPLICATIONS are invited for a TEMPORARY POST as RESIDENT STRUCTURAL ENGINEER to supervise a large reinforced concrete hospital building contract at Kettering, Northants.

Applicants should be not less than 25 years of age, and well experienced in reinforced concrete work. A.M.I.C.E. or A.M.I.Struct.E. would be an advantage. Salary £1,050 p.a.

Applications, giving details of age, previous experience, and the names of two persons to whom reference may be made, should be sent to the SECRETARY, Oxford Regional Hospital Board, 43 Banbury Road, Oxford, by First Post on 10th JULY, 1961.

TIMEKEEPER/SITE CLERK REQUIRED for civil engineering contract in Lancashire. Good prospects and permanency offered to suitable applicant. Written applications, stating full particulars, to Box V.4261, "The Contract Journal."

SITE COST SURVEYOR. Applications invited from fully trained Surveyors for important positions on building and civil engineering contracts in the Midlands area. Applicants should have H.N.C. in building or I.O.B., and age range between 26-36 years. Send full particulars in confidence to Personnel Manager, WILSON LOVATT AND SONS, LTD., Clarence Street, Wolverhampton.



### APPOINTMENTS VACANT

**AMBITIOUS TRANSPORT/SALES MANAGER** REQUIRED for progressive company producing and distributing aggregates in London area.—Write fully: Monomark BCM/PTRY, London, W.C.1.

**GENERAL FOREMAN**, preferably carpenter by trade, REQUIRED for civil engineering contracts in Dorset. The position is intended to be a permanent one, based on Dorchester, and offers good prospects to keen men with initiative and drive.—Apply in writing, giving details of age and experience, to **DEVON CONTRACTORS, LTD.**, Venny Bridge, Whipton, Exeter.

**SITE ENGINEER** REQUIRED by civil engineering contractors for major roadworks contracts in North Wales. Experience in setting-out, measuring, etc. Splendid opportunity for advancement in a progressive group of companies for a keen young Engineer.—Write in first instance, giving full particulars, and salary required, to **COFF AND SON, LTD.**, Almlington Quarry, near Market Drayton, Shropshire.

### RESIDENT ENGINEER and CLERK OF WORKS

Applications are invited for the following two temporary posts:—

(i) **RESIDENT ENGINEER** At a salary within the range £1,250-£1,350 per annum.

(ii) **A CLERK OF WORKS** At a salary within the range £750-£850 per annum.

To act as Assistant to the Resident Engineer at a site within the range £750-£850 per annum. Both these appointments are for the supervision of a contract at Caldicot, Monmouthshire, comprising the laying of 15in. dia. concrete sewers, 10in. and 18in. dia. cast-iron twin rising main, a reinforced concrete pumping station founded 24ft. deep in waterlogged ground, and the construction of a 30in. dia. sea outfall laid on piles. The contract is scheduled to commence in approx. two months' time, and is for an estimated period of nine months, with the possibility of an extension due to the construction under a separate contract of a sewage disposal works. The Resident Engineer must be a Corporate Member of the Institution of Civil Engineers or have a similar qualification and have had site experience in the supervision of reinforced concrete work, large-diameter pipe laying and pile driving. The Clerk of Works must have had experience on the supervision of site works, including reinforced concrete, pipe laying and pile driving.—Applications, endorsed "Resident Engineer" or "Clerk of Works," as the case may be, stating age, qualifications and experience, and accompanied by the names and addresses of three persons to whom reference may be made, must be sent to the undersigned not later than **TUESDAY, 4th July, 1961.**

**THOMAS AND MORGAN AND PARTNERS,**  
23 Gelliwastad Road, Pontfrrid.

**SITE ENGINEER** REQUIRED by civil engineering contractors for road schemes in Sussex. Progressive position for keen young man aged 20-25. Some previous experience essential.—Apply **GERALD TOYNBEE (CONTRACTORS), LTD.**, Barnham, near Bognor Regis, Sussex.

**ESTIMATOR** REQUIRED for civil engineering contract work. Capable of tendering for work up to approx. £150,000 value.—Write, giving details of age, experience, and salary required, to the Manager, Civil Engineering Contracts Dept., **H. C. JAMES, LTD.**, 183 High Town Road, Luton, Beds.

**JUNIOR ESTIMATOR/SURVEYOR**, aged 20-25, REQUIRED for surfacing work in London area. Excellent prospects for right applicant.—Write, stating age, experience and salary required, to **AMALGAMATED ASPHALTE COMPANIES, LTD.**, Pear Tree Wharf, Horn Lane, Greenwich, S.E.10.

### SUB-AGENT AND ASSISTANT ENGINEERS

REQUIRED for civil engineering contracts. Excellent opportunities for subsequent promotion.—Apply:

**HUMPHREYS, LTD.**,  
199 Knightsbridge, S.W.7.  
Tel.: KEN. 3456 (Civil Engineering).

**ASSISTANT CIVIL ENGINEERING ESTIMATOR** REQUIRED by **WILSON LOVATT AND SONS, LTD.**, to work from their London office. Preference will be given to Engineer with practical site knowledge. Previous knowledge of estimating not essential, but applicants must possess knowledge of costing and site economics. Age range between 25 and 33. Applications, giving training and experience to date, to 16 Grosvenor Crescent, London, S.W.1.

**SENIOR QUANTITY SURVEYOR**—A well-known and established national building and civil engineering contractor with head office in the Midlands offers a permanent position to a senior trained Surveyor, age range 30-40 years. He should be able to produce proof of having worked on large contracts from start to finish on large contracts for a similar contract. A very good salary will be paid, and other security staff terms and conditions will be discussed at an interview.—All written applications will be treated in strict confidence, and should be addressed to Box V.4303, "The Contract Journal."

### THE LONDON FERRO-CONCRETE CO., LTD.

REQUIRE a SENIOR ESTIMATOR experienced in tendering for building and civil engineering work. Pension scheme. Possible assistance with housing. Apply, giving full details, age, experience and salary required, to:

Chief Estimator,  
**THE LONDON FERRO-CONCRETE CO., LTD.**,  
Maxted Close, Hemel Hempstead, Herts.  
Telephone: Boxmoor 3810.

**CAPABLE**, experienced Man REQUIRED in Cambridgeshire, who has been used to laying tarmacadam by hand; also able to operate new mobile tarmacadam layer.—Write Box V.4302, "The Contract Journal."

**CIVIL ENGINEER/SURVEYOR** REQUIRED for important road and bridge contracts within travelling distance Edinburgh. Principal duties preparation of measurements and certificates, for which applicants should have appropriate experience. Good salary and prospects.—Please write, with full details, to Box V.4353, "The Contract Journal."

**BUILDING ESTIMATOR** REQUIRED for old-established East London building contractors. Permanent position, with good prospects.—Write, stating age, experience, and salary required, to Box V.4307, "The Contract Journal."

### APPOINTMENTS VACANT

**FIRST-CLASS AGENT AND GENERAL FOREMAN** REQUIRED for large building and civil engineering contract in Eastern Counties area. Generous salary offered to the right man in confidence, stating age, experience, and previous employers, to Box 1045, c/o Murray and Phelan, Ltd., Columbia House, Aldwych, W.C.2.

**ESTIMATOR/SURVEYOR**.—Owing to expanding business, a vacancy occurs for an Estimator/Surveyor to take charge of estimating, costing and bonus departments, and preparation of final accounts in a precast and prestressed concrete works. This is a senior position, with a salary up to £1,500 p.a. with pension and other emoluments. Additional experience in general building work desirable.—Apply in writing to **CONCRETE DEVELOPMENT CO., LTD.**, Iwer, Bucks.

**LONDON CIVIL ENGINEERING, LTD.**, REQUIRE experienced **SITE AGENTS, GENERAL FOREMEN, TRADES FOREMEN, SITE CLERKS** for contracts all areas. Excellent prospects.—Apply with full details, marking envelope with position required, to **LONDON CIVIL ENGINEERING, LTD.**, Lowton St. Mary's, near Warrington, Lancs.

### AGENT

REQUIRED for medium-sized civil engineering contract. Previous experience in the control of contracts essential.—Apply:

**HUMPHREYS, LTD.**,  
199 Knightsbridge, S.W.7.  
Tel.: KEN. 3456 (Civil Engineering).

**WORKS MANAGER**, for small, progressive precast concrete company, REQUIRED Reading area. Previous experience essential, and ability to take complete responsibility. Good salary to right applicant. Write Box V.4337, "The Contract Journal."

**BORDER ENGINEERING CONTRACTORS, LTD.**, REQUIRE **SENIOR ASSISTANT QUANTITY**

**SURVEYOR**; applicant should have had good grounding in site measurements. Material scheduling and finalising contracts up to the figure of £100,000. Preferably having passed the I.C.S. Intermediate Examination. Good prospects are available for the right man. Age 22-35. Salary £900-£1,200 p.a. **AGENTS (and FOREMEN)**, with extensive experience in civil engineering works for sea outfall sewer, etc., and disposal works. Salary according to ability and experience.—Apply to the Manager, Coach Road, Whitehaven, Cumberland.

**BUILDING SURVEYOR/SUPERVISOR** REQUIRED for old-established East London building contractors. Permanent position and good prospects.—Write, stating age, experience, and salary required, to Box V.4308, "The Contract Journal."

**MECHANICAL MAINTENANCE SUPERVISOR**, reporting directly to Plant Superintendent is REQUIRED for mining operation, Ireland. Must be qualified in the maintenance and repair of mining plant, and competent to organise and supervise men. Good opportunity for advancement. Housing available. State salary requirements. The position is pensionable. Qualifications, references, and other pertinent information in first letter.—Write Box V.4319, "The Contract Journal."

### CUBITTS

**HOLLAND & HANNEN AND CUBITTS (G.B.), LTD.**, have vacancies available.

SEE PAGES 1506 AND 1507.

**PLANT MANAGER** REQUIRED to take control of plant and transport for busy public works contractors in Sussex. The post is open to an energetic man aged 30 to 35. He will control the plant used on the firm's contracts, and develop the plant hire section. He will also have control of about 40 operators, drivers and fitting staff. Technical qualifications are not essential, but experience and capability for management are. The hours will be long, but salary and bonus will compensate. The position is pensionable.—Apply **GERALD TOYNBEE (CONTRACTORS), LTD.**, Barnham, near Bognor Regis, Sussex.

**YOUNG ENGINEER** WANTED for setting-out, etc., on reconstruction of Woodbridge By-pass. Contract period is one year, and satisfactory service would lead to permanent position.—**ROADWORKS, LTD.**, Commercial Road, Ipswich.

**SENIOR AND JUNIOR LAND SURVEYORS** and/or **SETTING OUT ENGINEERS** REQUIRED for survey teams in area north of London. Salaries £1,000 and £800 per annum plus expenses.—Write Box V.4351, "The Contract Journal."

**SITE ENGINEER** for civil engineering contracts, with three to five years' experience, REQUIRED immediately.—**THOMAS VALE AND SONS, LTD.**, Stourport-on-Severn. Telephone: Stourport 2462.

### THE CONSTABLE HART GROUP

REQUIRE several **YOUNG MEN**, aged between 18 and 25 years, for training for ultimate **MANAGERIAL POSITIONS** in the surfacing and civil engineering contracting industry. Practical training will be carried out under managers located in London, Derby, Portsmouth, Exeter and Glasgow areas. Only young men who are prepared to accept responsibility, work hard and who are concerned in being trained for progressive and permanent positions need apply. Applications will be treated in strictest confidence.—Write in first instance, giving full particulars, to:

The Director and General Manager,  
**THE CONSTABLE HART GROUP, LTD.**,  
Lion House, Richmond, Surrey.

**LAND SURVEYORS/ENGINEERS**. Lucrative careers; pension, overtime, tax-free allowances for competent instrument men.—Write Box V.4344, "The Contract Journal."

**MEASUREMENT ENGINEERS** and **QUANTITY SURVEYORS** REQUIRED for motorways, industrial contracts, etc., in Cheshire and the North Midlands. Permanent positions with good prospects. Bonus and superannuation schemes in operation. Applicants must have contracting experience, and should apply, in confidence, to the Personnel Officer, **TARMAC CIVIL ENGINEERING, LTD.**, Ettingshall, Wolverhampton.

**EXPERIENCED SITE CLERKS** WANTED for contracts in West Suffolk and Berkshire.—Write, giving age and full particulars of past history, to "R.E.C.", **SHEPARD, HILL AND CO., LTD.**, Central Chambers, Ealing Broadway, W.5.

### APPOINTMENTS VACANT

**AGENT** REQUIRED by Ilikeston contractor. Experience in drains, sewerage and all aspects of Post Office contracts. Applicants should state age, experience, etc. Write Box V.4333, "The Contract Journal."

**FORMWORK DESIGNER**.—**TARMAC CIVIL ENGINEERING, LTD.**, REQUIRE an experienced Designer to take charge of formwork design within the development and design department. Associate Membership of Civil or Structural Engineers preferred, but not essential. This is a permanent head office appointment.—Apply in writing, giving age and brief details of past employment, to the Personnel Officer, **Tarmac Civil Engineering, Ltd.**, Ettingshall, Wolverhampton.

**SENIOR ENGINEER/AGENT** REQUIRED to take charge of small- and medium-size contracts in an area Berks./Bucks. Experience in control of several contracts collectively is the minimum experience required. Generous salary, car and pension scheme, and considerable scope for advancement in expanding organisation.—Write, giving full details of experience, age, and salary required, to Box V.4356, "The Contract Journal."

### SOUTH LANCASHIRE MOTORWAY

**SIR ALFRED MCPALPINE AND SON, LTD.**—Vacancies still exist for experienced **SETTING OUT ENGINEERS** for Warrington to Preston sections. Top salaries and permanent employment with good prospects.—Apply, in writing, giving age, qualifications, experience, etc., to:

The Chief Engineer,  
**SIR ALFRED MCPALPINE AND SON, LTD.**,  
Hooton, Cheshire.

**BERNARD MCMAHUS, LTD.**, 73/75 Easton Street, High Wycombe, Bucks., REQUIRE **FIRST-CLASS SUPERVISORS**, well experienced in site organisation and handling sub-contractors. Applicants must be able to work to a planned programme with organising ability, drive and foresight to achieve completion dates. Salary by negotiation.

**SENIOR SURVEYORS AND ASSISTANT SURVEYORS** REQUIRED for varied and interesting contracts. Permanent positions; superannuation scheme; 5-day week; existing holiday arrangements honoured.—Write, stating age, experience, and salary required, to Chief Surveyor, **WILLIAM MOSS AND SONS, LTD.**, North Circular Road, Cricklewood, London, N.W.2.

**PLANNING ASSISTANT** REQUIRED for Berkshire head office of civil engineering contractors engaged on roadworks, main drainage and sewage disposal and water supply contracts. Duties will include contract planning, taking-off materials, preparation of working details and design of temporary works. Applicants should have good basic civil engineering training and at least three years' site experience. Permanent post with prospects; pension scheme.—Write, stating age, salary, and details of training and experience, to Box V.4354, "The Contract Journal."

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**CONTRACTORS' CLERICAL ASSISTANT** with good general experience in site office work and storekeeping REQUIRED on major civil engineering contract. Applicants must give age, previous employers and duties and marital status.

**WRITE BOX V.4318, "THE CONTRACT JOURNAL."**

**PLANNING AND PROGRESSING**—Building and civil engineering contracts. This vacancy calls for a training in the industry to H.N.C. or L.I.O.B. standard, with a full knowledge of B. of Q. specifications, drawings, and some site organisation, to prepare progress charts and schedules for new contracts. Applications should state fully age and history, to **WILSON LOVATT AND SONS, LTD.**, Clarence Street, Wolverhampton.

**WANTED**.—Experienced **SITE ENGINEER** required by rapidly expanding civil engineering firm in the Devon and Cornwall area. The position is permanent and offers exceptional prospects of advancement. Write in confidence, stating age and full details of experience, to Box V.4258, "The Contract Journal."

**ENGINEER**, keen, energetic and preferably qualified, REQUIRED as **ASSISTANT** to Contracts Manager. Experienced in R.C. foundations, sewerage works and reinforced concrete structure. Permanent pensionable position offered.—Please write, giving full particulars, to **CONCRETE PILING, LTD.**, 10 Westminster Palace Gardens, Artillery Row, Victoria Street, London, S.W.1.

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Experienced in sports grounds, hard courts, etc., WANTED to cope with expanding business.—Write, with details of previous experience, age, salary required, etc., to:

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90 High Street, Hampton Hill, Middlesex.

**EXPERIENCED SITE ENGINEER** REQUIRED by civil engineering contractors, for roadworks, main drainage, and sewage disposal contracts, Southern Counties. The position is permanent, with pension scheme, carrying a substantial salary, and offers exceptional prospects of advancement to higher grades in an expanding organisation.—Write in confidence, stating age, full details of experience, and past employers, together with salary required, to Box V.4355, "The Contract Journal."

**JUNIOR CIVIL ENGINEER** REQUIRED by medium-sized firm in the Midlands, to work directly under Managing Director as Technical Assistant. Should have had sound training in general civil engineering work. This appointment will give wide experience and opportunity to train for executive position.—Write Box V.4325, "The Contract Journal."

**AGENT** REQUIRED for moderate-size contract, preferably with experience in modern methods of concrete road construction.—Write, giving full details and salary required, to **THE DURNFORD CONSTRUCTION CO. (BRISTOL), LTD.**, Cumberland Road, Bristol, 1.

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**REQUIRED** for contracts in the Leeds area: **BONUS SURVEYOR**.—Apply, in writing, to: **REMA (CHESTERFIELD), LTD.**, Stortford Lane, Birdholme, Chesterfield.

## APPOINTMENTS VACANT

**WILLMOTT BROS., LTD.** REQUIRE SENIOR and JUNIOR SURVEYORS, mainly for measuring earthworks on site where some of London's largest developments are taking place. Permanent, progressive, pensionable post for suitable men.—Apply to 462 London Road, Isleworth, Middlesex.

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REQUIRE experienced SITE CLERK/TIMEKEEPERS for duties in the London area. Permanent positions with staff bonus and pension schemes.—Applications should give full details of age, experience and salary required, to:

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1 Queen Anne's Gate, London, S.W.1.

**SECTION ENGINEERS** REQUIRED by national contractors for civil engineering contracts near London and in the south west of England. An opportunity with good prospects to join a growing organisation. Good pay, pension and bonus scheme.

Write Box V.4348, "The Contract Journal."

**IMPORTANT** contracting company based Leigh, Lancs., invites applications from C.W.A. students and others with a sound basic knowledge of costing, for a RESPONSIBLE POST, where industry and initiative are necessary factors. Preferable age group 24-30. Replies should give full details of qualifications, experience and salary required, and should be addressed to Secretary, **LOWTON CIVIL ENGINEERING, LTD.**, Lowton St. Mary's, near Warrington.

**CIVIL ENGINEERS** (Senior and Assistants) REQUIRED for a variety of interesting contracts embracing bridge and marine works in S.W. and N.W. England.—Write brief details of experience to: J.595, L.P.E., 60/62 St. Martin's Lane, London, W.C.2.

**ENGINEER/AGENTS** REQUIRED for medium-sized road and sewers contract within 14 miles radius of London. Good salary, prospects and permanent employment for keen energetic men.—Write details of experience and availability to **MANNION BROS. (HARROW), LTD.**, 298-300 Preston Road, Harrow.

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REQUIRED immediately for contracts in north-west area and elsewhere throughout the country. Applicants should be well qualified technically, with broad experience of major and medium-sized contracts in all types of civil engineering and building, and capable of handling all aspects of contract management. The above appointments carry excellent prospects. Pension and life assurance schemes in operation. Car provided where appropriate. Holiday commitments honoured. Remuneration according to experience and ability. Apply, in writing, stating age, qualifications, experience, to:

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395 George Road, Erdington, Birmingham, 23.

**QUANTITY SURVEYOR** REQUIRED for civil engineering contracts for the north west area. Keen young man preferred. Good salary and conditions. Please send full details of experience to Box V.4349, "The Contract Journal."

**AGENT and SENIOR ENGINEER** REQUIRED for construction of dam in Wales. These are permanent and progressive posts and applicants must have experience of similar work.—Applications, which will be treated with the strictest confidence, should give full details of previous experience and salary required, to Box V.4347, "The Contract Journal."

**CONSULTING ENGINEERS** REQUIRE qualified CIVIL or STRUCTURAL ENGINEERS at their Glasgow and Birmingham offices to supervise reinforced concrete and structural work generally. Site experience of reinforced concrete essential. Salary £1,500 to £1,700 per annum, according to experience. Pension and bonus schemes in operation.—Write, stating age, qualifications, full details of experience and names of previous employers, to Box V.4346, "The Contract Journal."

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**CONTRACTORS' SURVEYORS** are REQUIRED for a variety of building and civil engineering contracts in the Glasgow area. The salary scale is £735-£1,125 per annum, and other conditions are good. Interviews will take place in Glasgow.—Men with experience in site measurement, valuations and final accounts, and capable of handling a number of contracts, are invited to apply for the positions now available, to:

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**SCOTTISH SPECIAL HOUSING ASSOCIATION, LTD.**,  
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**CIVIL ENGINEERS.**—Well-established civil engineering contractors REQUIRE the following staff for motorway and other contracts in the Midlands and South West: (a) ASSISTANT ENGINEERS, Junior and Senior; (b) PLANNING ENGINEERS; (c) SOIL MECHANICS ENGINEERS (d) SENIOR MEASUREMENTS ENGINEER. These positions offer scope for advancement in an expanding organisation for energetic and capable Engineers. Salaries will be above average for the right men. Applications from qualified Engineers with experience in contractors' site organisation should give age, qualifications, and fullest details of experience. Applications will be treated with confidence and will be acknowledged.—Write Box C1601 L.P.E., 60/62 St. Martin's Lane, London, W.C.2.

**TRAVELLER** REQUIRED. Must be well introduced to local authorities and road contractors in Notts., Derbys., Staffs. and Cheshire, to sell coated and dry limestone from modern quarry in Derbys. Car provided.—Write Box V.4375, "The Contract Journal," giving experience and salary required.

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**YOUNG ENGINEERS** REQUIRED for sewerage schemes in Southern England. Previous experience on similar work essential. Must be able to drive. First-class conditions to successful applicants.—Apply in first instance, giving details of age, previous employers and experience, to **T.H. CONTRACTORS, LTD.**, 300 Chiswick High Road, London, W.4.

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**AREA SUPERVISOR** (based on Glasgow) REQUIRED by **SCOTTISH SPECIAL HOUSING ASSOCIATION, LTD.** Qualification in civil engineering desirable, with extensive experience in the supervision of building, including multi-storey flats in reinforced concrete and civil engineering works. Salary on scale £1,585-£1,700, with placing for qualifications and experience. Superannuation scheme.—Application forms, with full particulars, can be obtained from:

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15/21 Palmerston Place, Edinburgh, 12.

**AUSTRALIA.**—JUNIOR ENGINEERS REQUIRED by a British company, for civil engineering works in Australia. Assistance with passage will be given. Good salaries will be paid to competent men. Interviews will be arranged in London, but applicants should send all relevant details, by air mail, in the first instance, to K. T. Conway, **DAVIS CONTRACTORS PTY., LTD.**, 82a Oxford Street, Sydney, N.S.W., Australia.

**ROBERT SAVILL, LTD.** REQUIRE SUB-AGENT, ENGINEER and FOREMAN for roadworks and sewerage contracts in Kent. Real opportunities for experienced and ambitious men.—Apply in writing to 8 High Street, Canterbury, Kent.

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**FIRST-CLASS AGENT** for large reinforced concrete superstructure contract in Kent area. A good salary is offered to the right man, who must possess drive, initiative, and be able to handle clients, bonus, etc., can be discussed during interview.—Apply in confidence, stating age, experience and previous employers, to Box 1047, c/o Murray and Phelan, Ltd., Columbia House, Aldwych, W.C.2.

## CIVIL ENGINEERS

REQUIRED immediately for new contracts in Kent and Essex. Young qualified men with experience in road making and/or R.C. construction are invited to apply for positions as ASSISTANT and JUNIOR ENGINEERS. Good salaries, generous allowances, production bonus scheme.—Write, with brief details of age and experience, quoting Ref. 281, to:

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**GENERAL FOREMAN** REQUIRED for overseas contract. Applicants must have been successfully employed in this capacity previously, and should preferably have worked abroad before. Essential experience includes pile driving, concrete work and muck shifting. Good salary available for right man. Write Box V.4382, "The Contract Journal."

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**REQUIRE AGENTS and GENERAL FOREMEN** capable of taking complete charge of large industrial, commercial and domestic developments, including multi-storey structures in reinforced concrete. These positions will be well paid, and offer great opportunities of advancement with an expanding group for determined and capable men.—Apply:

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**SUB-AGENT/SENIOR ENGINEER** REQUIRED by contractors for overseas contract. Applicants should have held similar positions on large contracts or have been employed as Agent on medium-sized jobs. Good opportunities for experienced Engineer with commercial outlook who is able to get results. Write Box V.4381, "The Contract Journal."

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**INSPECTORS** REQUIRED on M.2 Motorway in Kent. Previous experience of road construction and/or bridge construction essential.—Apply in writing, with references, to **FREEMAN, FOX AND PARTNERS**, 87 Buckingham Palace Road, London, S.W.1.

**CIVIL ENGINEER.**—British civil engineering contractors REQUIRE a qualified Civil Engineer for overseas work. The successful applicant will be a graduate, of single status, aged 26 upwards, and must have specialised soil mechanics experience of road and embankment construction, preferably in the field. This is an 18-months tour in a temperate climate, with a high salary, accommodation and paid home leave provided.—Apply urgently in writing to Box V.4388, "The Contract Journal," or telephone: Mr. D. E. Buckley at Sullivan 7456.

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REQUIRE GRADUATE CIVIL ENGINEERS (or equivalent) with at least two years' design experience of highways and/or bridges, to work in London office. Previous experience on motorways an advantage. Applications, in writing, to:

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39 Victoria Street, London, S.W.1.

**SENIOR SURVEYORS.**—**WILSON LOVATT AND SONS, LTD.**, Clarence Street, Wolverhampton, invite applications from fully trained and experienced Quantity Surveyors for their head office in Wolverhampton. Liberal salary, terms and conditions will be offered to suitable applicants.—Replies will be treated in strict confidence.

**CIVIL ENGINEERING GENERAL FOREMEN.**—Large civil engineering contractors REQUIRE General Foremen for bridge and drainage work on motorways and other contracts. Applications invited from experienced Foremen with good records for drive and initiative with large civil engineering contractors. Generous remuneration for the right men. Please give fullest possible particulars, which will be acknowledged and treated in confidence.—Write Box C1602 L.P.E., 60/62 St. Martin's Lane, London, W.C.2.

**SUNLEY** urgently REQUIRE TIMEKEEPERS/SITE CLERKS for contracts in the London area and Home Counties. Good salary, pension scheme; other attractive conditions.—Apply Chief Cashier, Sunley Works, Hemel Hempstead, Herts.

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**SALES OFFICE MANAGER** REQUIRED by company in Southern England. He should be experienced in dealing with export and home orders, and a sound knowledge of sales office invoicing procedure is essential. Some familiarity with shipping procedure and with earthmoving equipment would be an advantage.—Write, stating age, education, career to date, and present salary, to Box V.4386, "The Contract Journal."

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Between 22 and 30 years of age are REQUIRED for the Midlands area. Permanent, progressive appointments with superannuation, subsistence and bonus for applicants with site experience.—Reply, in confidence, giving details of qualifications and site experience, to:

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49 Waterloo Road, Wolverhampton.

**BUILDING AND CIVIL ENGINEERING FOREMEN** REQUIRED. Must be experienced and able to control medium-sized contracts.—Apply in writing for application form to **MONK AND CO., LTD.**, 2 Exchange Place, Middlesbrough, Yorks.

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**TARMAC CIVIL ENGINEERING, LTD.**, have vacancies on their outside contract staff for OFFICE MANAGERS, ASSISTANT OFFICE MANAGERS, and SITE CLERKS to train as Office Managers. Good remuneration and prospects of advancement, continuity of employment to suitable applicants experienced in any of the above positions, who are prepared to travel. Apply in writing, stating age, details of previous employment (which will be treated as strictly confidential), to the Personnel Officer, **TARMAC CIVIL ENGINEERING, LTD.**, Ettngshali, Wolverhampton.

**SALES REPRESENTATIVE** REQUIRED for Industrial tractors and allied equipment. As the successful applicant will be our sole industrial representative on our Reading sales staff, this situation offers tremendous possibilities with an expanding organisation. Previous industrial experience imperative, and must live in Reading district.—**TRACTORS AND FARMAIDS, LTD.**, Massey-Ferguson Industrial Distributors, Stratton Road, Swindon, Wilts.

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For Advertisements received too late for classification see page 1521



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### WORK REQUIRED

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**CONTRACTORS' PLANT COMPANY** in South Wales, at present specialising in repairs and now starting sales force, **SEEKS SELLING AGENCY**, preferably where first-class after-sales service is of importance. Alternatively, would enter into service arrangements on spares stockist basis, with manufacturer having sales force in territory. Write Box X.4373, "The Contract Journal."

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**REQUIRED, MAN** capable of carrying out contracts, to **FORM A PARTNERSHIP**. Small amount of capital required. There is a certain amount of plant and machinery. Offices situated in the Middlesex area. Write Box X.4332, "The Contract Journal."

**R. J. CARR, TECHNICAL ADVISER** in the Civil Engineering industry. Acknowledged as the country's foremost estimator in private practice. All contracts covered, large or small. All certificates and negotiations. Recently engaged on the development of new methods and techniques in the construction of reservoir cut-off trenches. Countrywide service.—Offices: 66 Highbury, Newcastle upon Tyne.

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### SALES BY TENDER

### ADMIRALTY.

SALE OF GOVERNMENT SURPLUS STORES.

**TENDERS** are invited for the PURCHASE and REMOVAL of SURPLUS MECHANICAL and ELECTRICAL EQUIPMENT at various stations in South Wales.

Brief description of items: Overhead Cranes, Electric Motors, Battery Charger, Diesel Engine and Generator, Compressor, etc. Some serviceable, others scrap.

Application for tender documents should be made to **SUPERINTENDENT**, Western Navy Works District, 7th Floor, Royal Liver Building, Liverpool, 3, not later than 30th JUNE, 1961.

**NOTTINGHAMSHIRE STANDING JOINT COMMITTEE.**

**CAST-OFF POLICE CLOTHING.**

The Standing Joint Committee have for DISPOSAL a quantity of **WORN-OUT and PART-WORN POLICE CLOTHING**, including Shirts, Collars and Ties.

Tender Forms can be obtained from the Chief Constable, County Police Headquarters, Epperstone Manor, near Nottingham, and the clothing can be inspected at the Police Headquarters.

Tenders, in sealed envelopes, endorsed "Cast-off Police Clothing," must reach the undersigned not later than the 14th JULY, 1961.

A. R. DAVIS, Clerk of the Standing Joint Committee.

### BUSINESS OPPORTUNITIES

**SUCCESSFUL** Construction Executive **FORMING OWN COMPANY**, and wishing to ensure success of new venture, **REQUIRES ADDITIONAL CAPITAL**. Directorship offered to experienced party or substantial equity in company. Write Box X.4222, "The Contract Journal."

**LONDON ORGANISATION SEEKS ASSOCIATION** with small regional companies or executives with management capabilities to complete formation of strong national group for the sale and hire of first-class earthmoving equipment. Reply, in strict confidence, to Box X.4380, "The Contract Journal."

### ACCOMMODATION

**FOR HIRE**, all types of CARAVANS available. Usual amenities. From 40/- per week. Delivered anywhere.—**CARAVAN CENTRE, LTD.**, the A.42 Roundabout, Godstone Road, Whyteleafe, Surrey. Telephone: Upper Warringtonham 3590/3807.

**CARAVANS TO RENT** for men with families. Rent £7 to £17 per month. Delivery anywhere. **Buckden Huntingdonshire. Telephone: Buckden 287.**

**ACCOMMODATE YOUR EMPLOYEES** in a 4-birth CARAVAN, fully equipped with heating, lighting, cooking and washing facilities. Hire rates from 50/- per week for four persons. Also **MOBILE OFFICES**. Delivered anywhere.—**NORTHERN CARAVAN DISTRIBUTORS**, Handforth, Ches. Tel.: Mercury 4255/6. Telephone: Handforth 416.

### HORTICULTURAL

**TURFING — SEEDING — HEDGING.** Quotations for all branches of landscape work, wherever in the U.K. C.E. contracts a speciality. **WEBSTER BROS.**, of Horsthorpe, Leeds. Tel. 2364.

**TURVES**.—Machine-cut, 3ft. x 1ft., close mown, weed-treated, 50/- per 100. Keen trade rates. We would be pleased to quote for your levelling and laying.—**E. K. KANE, LTD.**, 24 Sheepcot Lane, Watford. Telephone: Garston 2725.

**TURFING — SEEDING — PLANTING.** Competitive prices throughout U.K.—**KENTISH LANDSCAPES, LTD.**, Uxbridge Lane, Hingham, Rochester. Telephone: Strood 78028.

**THE FRANT HORTICULTURAL AND FORESTRY CONTRACTING SERVICE** (Tel.: Frant 206), Unbridge Wells, Kent, undertake in the south of England all types of GRASS MOWING, ROTATORY HOEING, SEEDING, TREE FELLING, etc.

**TURF SUPPLIED**.—Finest quality, weed-treated, close-mown. Machine-cut to specification. Price quoted ex held or delivered by road or rail. Contract Laying a speciality.—**LANDSCAPE and TURF CO., LTD.**, Orchard Dene Nursery, Hadlow, Tonbridge, Kent. Telephone: Hadlow 416.

**BULK TURF and TOP-SOIL DELIVERIES** 24-hour quotations given for London and Home Counties. **J. P. TOMLINSON**, Longlands Nursery, Blackness Lane, Keston, Kent. Telephone: Farnborough (Kent) 51000.

**ROTARY CULTIVATION, GRADING, EARTH-MOVING, TURFING**. Contract or daywork basis. **JAMES COOPER, LTD.**, 28 Kensington Church Street, London, W.8. Western 3412.

**TURF**.—48-hour delivery of bulk orders in Home Counties. Keen quotations for top-quality marsh turves, weed-treated and short mown.—**FAIRVIEW NURSERY (GILLINGHAM), LTD.**, Wigmore, Gillingham, Kent. Telephone: Rainham 91244.

**SOILING, SEEDING and TURFING.** Site Clearance, Excavation and Levelling Work undertaken in any part of the U.K. at competitive prices.—**GILLIAM, Purley, Uplands 9222/6.**



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## COUNTY COUNCIL OF ESSEX.

### HIGHWAYS DEPARTMENT.

#### RECONSTRUCTION OF WOODFORD BRIDGE.

TENDERS are invited for the RECONSTRUCTION of WOODFORD BRIDGE, over the RIVER RODING. The work will include the Construction of a New Prestressed Concrete Bridge and the Demolition of the existing Brick Arch Bridge. Tender documents may be obtained from the County Surveyor, Old Court, Chelmsford, on payment of deposit of £5 which will be refunded only if a bona-fide Tender is received and not subsequently withdrawn, and if all the documents are returned. Tenders must be submitted, in the envelope provided, not later than 12 Noon on FRIDAY, 28th July, 1961. The Council does not bind itself to accept the lowest or any Tender it may receive.

CHRISTIAN BERRIDGE,

Clerk of the County Council.

County Hall,  
Chelmsford.

## BOROUGH OF MARGATE.

### BIRCHINGTON-ON-SEA—BEACH AVENUE.

#### CONSTRUCTION OF THREE NON-ATTENTION TYPE TENNIS COURTS.

TENDERS are invited for the ABOVE-MENTIONED WORK.

Particulars and Forms of Tender may be obtained from the Parks Superintendent, Hartsdown Park, Hartsdown Road, Margate, Kent. Tenders, in plain sealed envelopes without name or mark indicating the sender, but bearing the words "Tender for Construction of Tennis Courts at Beach Avenue, Birchington," must be delivered at the Office of the undersigned, not later than 12 Noon on MONDAY, 31st July, 1961. The lowest or any Tender will not necessarily be accepted.

T. F. SIDNELL,

Town Clerk.

40 Grosvenor Place,  
Margate, Kent.

## CITY OF WORCESTER.

### SITE COMPLETION WORK AT DENT CLOSE AND ST. CATHARINES VALE HOUSING ESTATES.

FIXED-RATE TENDERS are invited for the ABOVE WORKS, which comprise the Completion of Roads, Footways and Turfed Areas. Documents obtainable from the City Engineer and Surveyor, 22 Bridge Street, Worcester, upon payment of a Two Guinea deposit, which will be returned on receipt of a bona-fide Tender.

Tenders, in envelopes provided, to be posted to reach the undersigned not later than MONDAY, 17th July, 1961. The Corporation do not bind themselves to accept the lowest or any Tender.

BERTRAM WEBSTER,

Town Clerk.

Guildhall,  
Worcester.

## WANTAGE URBAN DISTRICT COUNCIL.

### ERECTION OF 35 DWELLINGS.

TENDERS are invited for the ERECTION OF 35 DWELLINGS at ORMOND ROAD, Wantage, and Site Works in connection therewith.

Bills of Quantities, Specifications and Forms of Tender may be obtained on application to the Council's Architect, W. G. STANBROOK, A.I.A., 37a Bartholomew Street, Newbury, on payment of £3 3s. deposit, made payable to the Council, which will be returned upon receipt of a bona-fide Tender not subsequently withdrawn, and the return of all documents in the manner and at the time stated. Plans and Specifications may be inspected at the Architect's Offices as above, or at the Council Offices, Portway, Wantage. Tenders are to be delivered to the undersigned, in plain sealed envelopes endorsed "Housing Tender," not later than 5 p.m. on MONDAY, the 24th July, 1961. The Council do not bind themselves to accept the lowest or any Tender.

Dated this 16th day of June, 1961.

J. MAUDE,

Clerk of the Council.

Council Offices,  
Portway,  
Wantage.

**MANAGER REQUIRED** by electrical contractors engaged on installations, office blocks, schools, general commercial undertakings. Ability to exercise full control of all aspects, including planning, estimating, buying, contract progress and commercial administration, and with experience in negotiating architects and clients. Applicants, of preferred age 38-45, experienced in comparable post, are offered good salary, pension scheme, company car, and other attractive conditions.—Write full particulars to Box V.4385, "The Contract Journal."

**PLANT MANAGER REQUIRED** for contractors' depot. Must have good knowledge of electrical and mechanical plant.—Write, giving details of age, experience, and salary required, to THE CLEVELAND BRIDGE ENGINEERING CO., LTD., 123 Pall Mall, London, S.W.1.

**MANAGER REQUIRED** for transport, plant maintenance and construction department. Age not exceeding 45 years. Expanding private company in sand and gravel production, ready-mixed concrete and concrete products. Also plant hire. Value of equipment £350,000. Salary, according to age and ability, not less than £1,500 plus efficiency commission. Permanent, progressive; superannuation. South Coast situation.—Write Box V.4390, "The Contract Journal."

**ENGINEER REQUIRED** by national building company expanding housing division in the Home and Mid-West Counties. Applicants must have a good practical knowledge of surveying and setting-out on site, and capable of preparing drawings and negotiating with authorities. Qualifications not essential but advantageous.—Please write, stating age, experience, and salary required, to Box V.4389, "The Contract Journal."

**ASSISTANT QUANTITY SURVEYOR**, aged 25-30, with general experience of site measuring, interim and final accounts. Contracts mainly building in West Midlands.—Applications, giving details of experience, salary required, etc., to G. A. J. Wilson, D. B. EVANS (BILSTON), LTD., Oxford Street, Bilston, Staffs.

## LONDON COUNTY COUNCIL.

### HOUSING DEPARTMENT—WORKS DIVISION.

**BONUS SURVEYORS REQUIRED** for operation of incentive schemes for all trades on work of new construction, and modernisation and conversion schemes. Up to £960, according to experience and qualifications. Holiday commitments honoured.

Write, stating age, qualifications and experience, to DIRECTOR OF HOUSING (G.I.C/1738/6), County Hall, S.E.1, not later than 6th JULY.

## CITY OF RIPON.

### ROAD RECONSTRUCTION.

TENDERS are invited from acknowledged road and sewer contractors for the RECONSTRUCTION of CLOTHOLHOLME ROAD, involving Scarifying, Reshaping, Kerbing, Channelling, and Provision and Laying of Tar and Bituminous Macadam Surfacings, a small quantity of Road Gully and Connection Work is included; approx. length of roadway is 960 lin. yd. Forms of Tender, Conditions of Contract, Specification and Bill of Quantities may be obtained from the City Engineer, Low Saint Agnesgate, Ripon, on payment of a deposit of £2 2s., and at whose Office Plans and Sections may be inspected during normal office hours.

Tenders are to be delivered in a plain sealed envelope endorsed "Clotholhorne Road Reconstruction," to the undersigned not later than 12 Noon on MONDAY, 10th July, 1961.

J. WAITES,

Acting Town Clerk.

Town Hall,  
Ripon.

## NORTH CORNWALL WATER BOARD.

### ST. MINVER PARISHES WATER SUPPLY IMPROVEMENT.

FIXED-PRICE TENDERS are invited from experienced public works contractors for the CONSTRUCTION of about 7,500 yd. of 9 in. and 6 in. SPUN CAST-IRON WATER MAIN, complete with Sluice Valves, Hydrants, Pressure Reducing Valve, etc., between ST. ENDELLION and POLZEATH, North Cornwall.

The Conditions of Contract, Specification, Form of Tender and Bills of Quantities, and Key Plan may be obtained from the Board's Consulting Engineers, MESSRS. LEMON AND BLIZARD, 1 Glenside, College Avenue, Mannamade, Plymouth, on and after Monday, 26th June, 1961, on payment of a deposit of £3 3s. Tenders, on the form provided, together with a fully priced Bill of Quantities, are to be delivered to the undersigned, in a plain sealed envelope endorsed "St. Minver Parishes Water Supply," not later than Noon on THURSDAY, 20th July, 1961.

The Board does not bind itself to accept the lowest or any Tender, and no payment will be made for any Tender submitted.

C. J. HOTHERSALL-BUCKLEY, F.B.A.A.,  
Clerk to the Board.

Hill Road,  
Wadebridge,  
North Cornwall.

17th June, 1961.

## BIRMINGHAM TAME AND REA DISTRICT DRAINAGE BOARD.

### (AMENDED ADVERTISEMENT.)

#### ASSISTANT RESIDENT ENGINEERS.

APPLICATIONS are invited from persons experienced in tunnelling work, for APPOINTMENTS under the supervision of the Engineer to the Board, Rookery Park, Erdington, Birmingham, 24, of the FOLLOWING:

Assistant Resident Engineers, Grade V (£1,310 + £55(2) + £60 + £1,480 on the National Salary Scales, to supervise, under the direction of the Chief Resident Engineer, the construction of sewer in tunnel, varying from 12ft. 6in. to 14ft. dia. Appointments subject to one month's notice on either side.

The persons appointed will be required to work in shifts at the discretion of the Chief Resident Engineer. Applications, stating age, qualifications, present and past posts, and details of experience, together with the names and addresses of three referees, must reach the undersigned not later than First Post on MONDAY, 17th July, 1961.

ARTHUR J. WRIGHT,

Clerk to the Board.

Clerk's Office,  
Lombard House,  
Great Charles Street,  
Birmingham, 3.

16th June, 1961.

**ENGINEER/AGENT REQUIRED** by civil engineering department of CONCRETE PILING, LTD., for sewage disposal works contract. Applications are required from men with proven ability of over at least five years on contracts of minimum value £100,000. This position can lead to permanency, and the company operates a pension scheme, to which the successful applicant later becomes eligible.—Please write in confidence, giving full details of experience, and salary required, to Concrete Piling, Ltd., 10 Westminster Palace Gardens, Artillery Row, London, S.W.1.

**ASSISTANT REQUIRED** for laboratory control of ready-mixed concrete production. Must hold current driving licence.—Write Box V.4376, "The Contract Journal."

**CONTRACTS MANAGER REQUIRED.** The successful applicant, preferably surveyor-trained, must be thoroughly competent in all trades to manage good-quality work and be responsible for this department. The applicant must be experienced in modern methods of management, including preplanning techniques and production control. A car will be provided, and assistance given with housing if necessary.—Applications to Managing Director, J. R. DEACON, LTD., Lombard Street, Lichfield, Staffs.

**COSTAIN MINING, LTD., REQUIRE AN ENGINEER/SUB-AGENT** for their large strip mining contract in Fife. This appointment calls for a widely experienced Engineer with initiative and drive. Excellent prospects for chosen applicant; pensionable position. Housing can be arranged.—Reply, stating age, previous experience, and salary required, to Personnel Officer, Costain Mining, Ltd., Westfield O.C.C.S., Kinglassie, Fife, Scotland.

## ARGYLL COUNTY COUNCIL.

### BOWMORE AND PORT ELLEN RURAL WATER SUPPLY.

The Council will shortly invite TENDERS for various WORKS in connection with the ABOVE-NAMED WATER SUPPLY on the ISLAND of ISLAY.

The works comprise Construction of a small Dam and of a River Intake, Laying of approx. 20,000 yd. of 7 in., 6 in. and 5 in. dia. Mains and Construction of Two 60,000-gallon Mass Concrete Service Reservoirs.

Contractors who wish to tender should send their names to the Consulting Engineers, ROBERT H. CUTHBERTSON AND ASSOCIATES, 13, Eglington Crescent, Edinburgh, 12, by 30th JUNE, 1961.

Contractors who have submitted their names in response to a previous advertisement need not make fresh application.

The County Council do not bind themselves to invite Tenders from all applicants or to accept the lowest or any offer.

A. D. JACKSON,  
County Clerk.

## TEIGNMOUTH URBAN DISTRICT COUNCIL.

TENDERS are invited from building contractors for the ERECTION of a new THEATRE and CON- FERENCE HALL in CARLTON TERRACE, Teignmouth. Applications to tender are to be submitted to the Architects appointed by the Council, LOUIS de SOISSONS, PEACOCK, HODGES, ROBERTSON AND FRASER, at 12 Baring Crescent, Exeter, not later than 7th JULY. Tender documents will be sent out shortly afterwards. Applications are to be accompanied by a cheque for Three Guineas, made payable to Teignmouth Urban District Council, which will be refunded on receipt of a bona-fide Tender which is not subsequently withdrawn.

Applications should be submitted only by those firms having sufficient experience and resources to carry out work of this kind, as this will be taken into account by the Council in judging the acceptance of any Tender. The Council does not bind itself to accept the lowest or any Tender.

T. W. LEE EDWARDS,  
Clerk of the Council.

The Council Offices,  
Bilton House,  
Teignmouth, Devon.

## SOWERBY BRIDGE URBAN DISTRICT COUNCIL.

### REAR LOADING REFUSE COLLECTING VEHICLE.

TENDERS are invited for the SUPPLY and DELIVERY to the Council's garage of One REAR LOADING REFUSE COLLECTOR powered by a Diesel Engine of approved design. The rear loading body to have a loading height not exceeding 4ft. 3 in., with a compression or gravity type packing arrangement. Capacity of the body, 18/20 cu. yd. A double cab to be provided which will incorporate a loader's compartment to seat not less than three loaders together with access ladder or suitable steps—the vehicle painted and lettered to the Council's requirements and delivered on or about 1st April, 1962.

Any further details may be obtained from the Senior Public Health Inspector, Beech Road, Sowerby Bridge (Tel.: Halifax 81680). Tenders to be forwarded to the undersigned in a plain envelope, marked "Tenders for Vehicle," and received not later than the First Post on MONDAY, 17th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

ALFRED WOMERSLEY,  
Clerk of the Council.

Allan House,  
Sowerby Bridge.

## SOWERBY BRIDGE URBAN DISTRICT COUNCIL.

### SUPPLY AND DELIVERY OF DUSTBINS AND COVERS.

TENDERS are invited for the SUPPLY and DELIVERY to the Council's Depot of 500 Pile Taper Sided DUSTBINS and COVERS, to B.S.S. 792/47, as follows: 200 Bins of 3 1/4 cu. ft. capacity, 300 Bins of 2 1/2 cu. ft. capacity.

The bins to be embossed "S.B.U.D.C. 1961" in letters 2 in. high, and galvanised after manufacture. The Tenders should allow for the covers to be (a) in metal and (b) in rubber.

Further details may be obtained from the Senior Public Health Inspector, Beech Road, Sowerby Bridge (Tel.: Halifax 81680). Tenders to be forwarded to the undersigned in a plain envelope, marked "Tenders for Dustbins," and should be received not later than the First Post on MONDAY, 10th July, 1961.

The Council do not bind themselves to accept the lowest or any Tender.

ALFRED WOMERSLEY,  
Clerk of the Council.

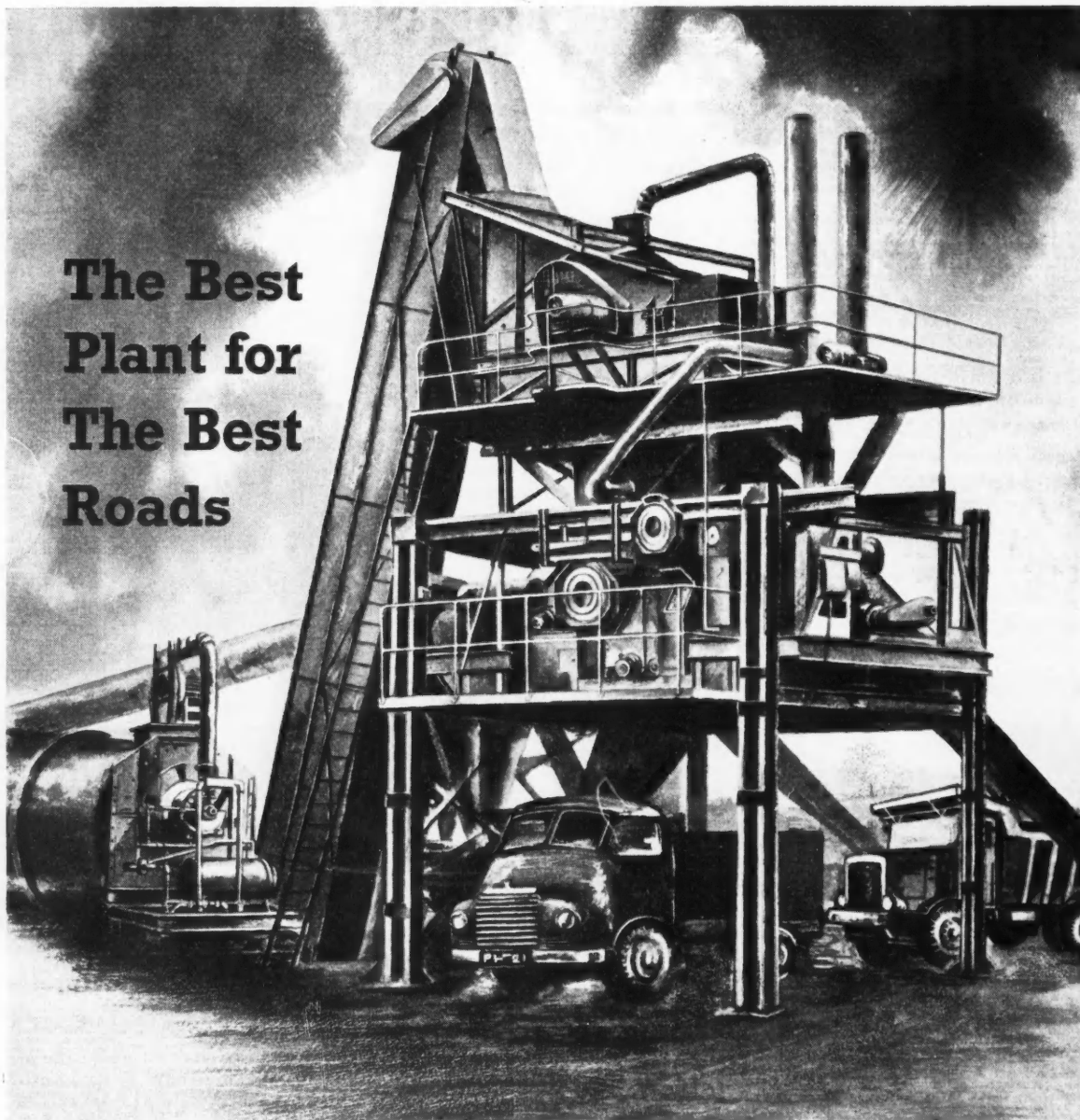
Allan House,  
Sowerby Bridge.

**MARINE PILING AGENT or GENERAL FOREMAN REQUIRED** for harbour contract in Durban, South Africa. Approx. duration minimum 12 months from August, 1961. Considerable experience in precast prestressed concrete piling field essential. Good remuneration for right man, with possibility of extension of contract.—Write Advertiser, Box V.4392, "The Contract Journal."

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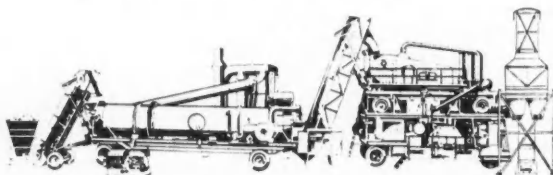
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# THE CONTRACT JOURNAL

INCORPORATING  
THE BRITISH CONSTRUCTIONAL ENGINEER AND THE CONTRACTOR

## THE CONTRACT JOURNAL

Incorporating  
THE BRITISH CONSTRUCTIONAL ENGINEER  
and  
THE CONTRACTOR  
Established 1879

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## CONTINUING RISE IN PRODUCTION COSTS

FOUR months ago the results of an enquiry by the British Federation of British Industries into industrial and export trends suggested falling orders and rising stocks, an easier labour position and lessening optimism. But the comment was made that "the detailed expectations give some hope that this (disturbing) trend may be halted".

The latest F.B.I. enquiry returns prepared at the beginning of this month by 701 industrialists, show that this has happened. There has been a revival in new orders (18 per cent. up on balance compared with 5 per cent. down last time), a consequent lengthening of order books, and an increase in output (not yet apparent in official figures).

Confirmation of the changed situation is given by the fact that skilled labour is again the main impediment to increased output; in February orders (or sales) had, for the first time become the major factor. Stocks at all levels have again risen; this is in marked contrast to the expectations that raw materials stocks would fall and finished goods and work in progress would remain steady.

In February it was pointed out that the balance of firms reporting a rise in costs was the highest since the F.B.I. enquiries began. This time a further substantial rise in costs is suggested, coupled with a much smaller rise in selling prices and a further lessening of profit margins. The increase in the balance of firms reporting a rise in costs and a fall in margins is greater than expected; a situation to which the rise in the tax on fuel oils may have contributed.

A detailed enquiry was made this time by the F.B.I. into exports and the analysis is based on the replies from the 499 respondents for whom exports were significant. Thus no less than 70 per cent. of this sample of 701 large, medium and small firms were exporting directly. Over all about 25 per cent. of their output was exported, a figure consistent with published statistics. The questions on the rates of new orders and on deliveries, continued from previous surveys, show a significant improvement for the first time since a year ago. However, the improvement is less than that shown for the home trade.

The replies to the new questions show that despite a rise in export orders on hand, delivery dates have been shortening somewhat and that more orders have been booked at lower prices. This is in contrast to the reported rise in prices for the home market, and the general rise in unit costs of production. But despite this fall in prices, the comparative price level is by far the most serious short term problem facing exporters; delivery dates being of minor importance in comparison. It is to be noted that exports are hardly being held back by shortages of capacity.

The broad conclusions of the F.B.I. enquiry are, therefore, that there has been a rise in orders and output, but this applies more to the home than to the export market. The most disturbing factor is the continuing rise in production costs, particularly as price is seen to be the main obstacle to higher exports. Unfortunately, unless something unforeseen happens, this trend is likely to continue in the coming months.

## Quantity Surveying Services

THE new scale of charges for quantity surveying services announced by the Royal Institution of Chartered Surveyors has a number of advantages over the existing Index of Fees. One such advantage will be that a quantity surveyor will be able to quote an overall fee from the outset, in the same way as an architect.

For the purpose of assessing fees, the new scale has been divided into three categories of building work and one of civil engineering work. A survey carried out by the Institution showed that, although the cost of quantity surveying work increases with the size of the building contract, it does so at a progressively lower rate. The new scale of charges takes account of this by reducing the percentage for fees as the value of the work increases. On major contracts and major works of a repetitive nature, such as blocks of flats, a considerable reduction in fees can therefore be looked for.

All in all, the new scale appears to be fair both to the client and the quantity surveyor, and its adoption will dispense with the need for negotiating separate scales of charges as hitherto. As a measure of encouraging greater speed and efficiency in the building industry, it is to be welcomed by the industry and customer alike.

# An Economist Comments . . .

## WAGES IN 1962

WITH one wage settlement not yet effective, it may seem premature to consider the likely outcome of the next. But this, of course, is far from being the case now that firm price tenders predominate. If contractors are able to gauge, with reasonable accuracy, the level of basic wage rates 9 or 12 months hence, they are more likely to prepare estimates that will lead to a fair and reasonable profit margin.

Three primary considerations normally govern wage negotiations, they are:

1. The prosperity (including productivity) of the industry, and hence its capacity to pay.
2. Living standards.
3. The relation between the wages of the workers directly concerned and those paid to workers in other industries.

### Prosperity of the Industry

Taking a broad view, few would be able to argue effectively that the contracting industry today is other than a prosperous one. Output beat all records in 1960 and is set fair for doing so again in 1961. It is true that in certain areas, as for certain categories of work, tendering remains very keen; but taking the industry as a whole it is evident that profit margins today show a marked improvement on, say, 1958 or 1959.

Naturally by no means all of this increase is free to be absorbed by increased wages. A fair share must be allocated to reserves, to new plant and re-equipment; and, by no means least important, to those people who actually invest money in contracting firms. However, the fact that profit margins are increasing will certainly not be lost on the building unions: they will undoubtedly do their best to ensure that some part of them are diverted to their members. Neither are they likely to overlook the labour supply difficulties generated by the exceptionally high level of contracting activity. The most conservative estimates place the 1961 level at 3 or 4 per cent. above 1960; others, made at a later date suggest that 10 per cent. may not be out of the question. Certainly the year has started on an extremely promising key. Output in the first quarter totalled £669m., compared with £607m. in the first quarter of 1960. Even allowing for increased building costs, some element

of price inflation as contractors react against the uneconomic tendering levels of previous years, and the exceptionally good building weather so far, this represents a substantial real advance, probably of the order of 3 to 5 per cent. Output-per-man also continues to rise, and this is another factor to be taken into account: it could well be that last year's 4 per cent. will be repeated.

### Living Standards

The most obvious guide here is the Index of Retail Prices, to which building wages are partially geared under a sliding scale agreement. Here are some of the things influencing the Index just now. The April figure reflects increases in rents of some local authority houses, high local rates for many parts of the country and higher electricity charges for most areas. The average so far in 1961 is already about two points above the average in 1960. What is to come? Some increases in bus fares is now a possibility following the recent wage award to bus workers; the London Transport Executive have applied for further fare increases which, if approved, would become effective during the next six months; further increases in rail fares are also possible. In the food group, the fall in the prices of imported foods should offset the tendency of home produced foods, notably bread and cakes, to rise and result in overall stability in the food group of the index.

Taking all these factors into consideration and disregarding any changes in purchase tax arising from the Budget proposals (by no means out of the question), the indications are that the Index may rise a further couple of points in the next six months. An extra 1d. or even 1d. an hour on basic contracting rates on this account is, therefore, a distinct possibility at the beginning of February, 1962.

### Wages in Other Industries

In the present climate of wage bargaining this factor can outweigh the other two combined. Rarely, perhaps never, have workers in one industry been so conscious of their position as regards their wages and earnings compared with those of workers in other industries. This is understandable, with so much emphasis on full employment and on the need for an all-round rise in living standards. It is certain therefore that the building unions are watching very carefully the current

trends of wages and wage claims in other industries.

At the April conference of the Amalgamated Engineering Union, another one pound a week in wages and a 40-hour week without loss of pay headed the list of demands to be submitted to the Engineering and Ship-Building Employers. The wage claim is to be pressed "immediately" and the hours claim "vigorously", which probably reflects the view that pay is the more important. This claim is particularly relevant to contracting; odd years apart, contracting wages tend to coincide closely with those of engineering and ship-building.

Pressure for higher wages will also be one of the main features at the annual conference of the National Union of Mineworkers in July. Only one motion mentions a figure, but this is one pound a week and could cost the industry over £30m. a year to meet in full. The railway unions are planning to put in a new claim as soon as settlement is reached on their outstanding demand for a shorter working week. Much nearer home is the decision of Britain's largest building union, the Amalgamated Society of Woodworkers, to instruct its leaders to press for a further wage increase for the industry's one million workers. The decision to ask for more money was passed by an overwhelming majority at the Union's annual conference in Blackpool. There are signs that the other building unions will follow this line and, if they do, the N.F.B.T.O. may feel themselves compelled to submit a new wage claim this autumn, almost coinciding with the operation of the £60m. package deal finalised in January.

### Conclusions

Without doubt the Government will not submit to irresponsible agreements in contracting or elsewhere. They are watching the economy closely and they have two new economic regulators to hand, one directly connected with the labour force. Nor is it likely that the "builders' tanner" will be repeated in 1962—in 1961, 3d. was on account of fewer working hours. But the balance of evidence is that the arguments in favour of some increase in contracting wages at some time in 1962 are building up pretty fast. To predict a definite figure on the information so far available could be grossly misleading; but something of the order of 3d. an hour (including something for higher living costs) sometime in 1962 seems an increase that may well prove to be somewhere near the mark, although it is likely to operate late rather than early in 1962.

### Mortgage Interest Rates

A month or two ago I suggested that 6 or 6½ per cent. on a building society mortgage was not so very high compared with pre-war after account had been taken of taxation relief; also that rates could fluctuate around this level for some time. I was not, therefore, surprised at the recent recommendation by the Building Societies Association that mortgage interest rates should be raised by ½ per cent. to 6½ per cent. The societies' task is two-fold: to borrow money as well as to lend it. They are living with a tremendous private house-building programme which shows every sign of becoming larger still. Naturally, they are anxious to finance a large part of this programme; in fact their failure to do so could halt it in its tracks. Because of the taxation relief mentioned, and, of course, of the fact that property values are appreciating all the time, it is most unlikely that the extra ½ per cent. will make a noticeable difference to the demand for owner-occupation. The all important consideration just now, it seems, is that the societies should have adequate funds available.

## £5,892,765 BIRMINGHAM-PRESTON

### MOTORWAY CONTRACT

#### Sir Lindsay Parkinson's Tender Accepted

THE final contract for the construction of the 78-mile Birmingham-Preston Motorway (M.6) has been let. This is for the 9½ miles in South Cheshire between the Staffordshire boundary and Holmes Chapel.

Mr. Ernest Marples, Minister of Transport, has accepted the tender of Sir Lindsay Parkinson and Co., Ltd., in the sum of £5,892,765. The work is to be completed within 25 months.

The route of this section of the motorway runs northwards from the Staffordshire boundary near Barthomley, passing to the east of Crewe and Sandbach, to a point on A.54 between Holmes Chapel and Middlewich, where it connects with the section in North Cheshire for which the contract was let on May 10, 1961.

The construction of 22 bridges will be

necessary in addition to the railway bridge at Sandersons Brook, now almost completed, which is being built by the British Transport Commission.

### Carriageways

The motorway will have dual three-lane carriageways, each with a 10ft. wide hard shoulder and separated by a 15ft. wide central reserve. At the Staffordshire-Cheshire boundary there will be a junction with a new trunk road which it is proposed to build between Talke and Balterley Heath. There will be other junctions, with A.534 near Sandbach and with A.54 west of Holmes Chapel.

The works have been designed for the Ministry of Transport by Scott and Wilson, Kirkpatrick and Partners, consulting engineers, who will also supervise the construction work.

## HAMMERSMITH FLYOVER SUPERSTRUCTURE COMPLETED AHEAD OF SCHEDULE

**T**HE erection of the main superstructure of the Hammersmith Flyover, started last October, was completed yesterday, with the ceremonial placing of the last precast unit by Mr. R. Edmonds, chairman of the L.C.C. Roads Committee.

This represents 8½ months of intensive effort in erecting the 16 spans totalling 2,043ft. in length—an average rate of one span every 17 days. Certain changes in the specification for surfacing and road heating increased the time required for the finishing operations, which meant the contractors, Marples, Ridgway and Partners, Ltd., were faced with the formidable task of finishing the main superstructure two months ahead of schedule, at the same time making up for an unavoidable delay of some 2½ months to the start of the erection.

The design and construction of this £1,300,000 project, being carried out for the L.C.C., was fully described in the February 16, 1961, issue of *The Contract Journal*, but brief details of the structure are included here.

The flyover and approach embankments, over half-a-mile in length, will carry the through traffic between the Great West Road and the Cromwell Road Extension over the road and rail complex at Hammersmith. The suspended portion is a prestressed concrete structure erected in 16 spans—11 of 140ft., two of 120ft., two of 94ft. 6in. and one of 74ft.; the shorter spans are positioned to suit structural requirements at the ends of the structure and at, and adjacent to the single expansion gap about two-fifths along its length. The spans are supported by 15 single centre columns of modest dimensions, which take up relatively little room at ground level. The shallow arched main spine beam which spans these columns incorporates cantilevered sections which support the outer lanes of the roadway. The flyover is dual carriageway with two roadways each 24ft.

wide separated by a median strip 5ft. wide.

By adopting a prestressed design it was possible for the greater part of the suspended section to be manufactured off the site in the form of precast transverse sections and road slabs, all of which were

wide by 8ft. 6in. long, varying in depth between 9ft., at the columns, to 6ft. 6in. for those at mid-span; these vary in weight from 60 tons, for the largest, to 35 tons for the smallest.

A reinforced concrete cantilever unit,



Completed portion at western end of flyover. The safety fence has yet to be erected

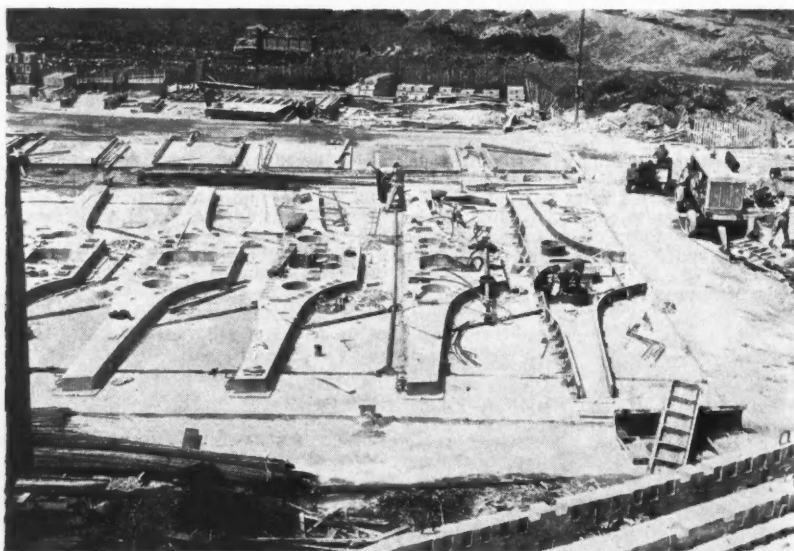
subsequently transported to the site as required and assembled to form a continuous structure. The main spine beam is composed of 204 hollow segments, 26ft.

shaped like an inverted coathanger, is placed between each of the beam segments. The cantilever units, each 59ft. wide, 12in. thick and weighing a maximum of 15 tons,



View of the flyover looking east

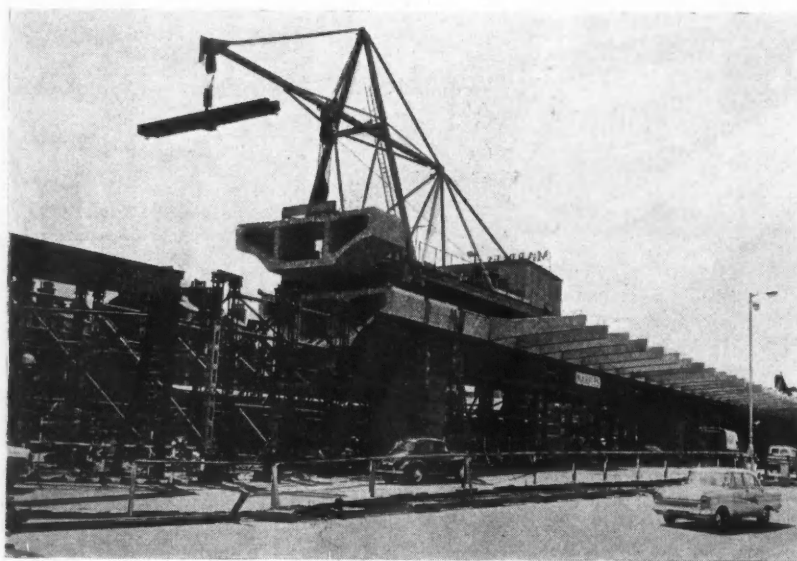




The casting beds for the cantilever units and road slabs at Heston, Middx.



Casting beds for beam segments, with shutters in foreground



Erection gantry lowering precast beam segments into position. View taken on June 9

vary in depth to match the beam segments. A 3in. gap left between the beam segments and cantilever units was subsequently filled with concrete and the whole structure stressed together with 1½in. diameter strand cables. Precast road slabs, 8in. thick, between the projecting arms of the cantilevers form the outer lanes of the roadways.

It was intended, originally, to erect the superstructure in two parts; the first portion from the western end to the expansion joint and the second portion from the eastern end to the same point. The erection of the second portion by this method would have entailed the transport of the large units through the congested area of Hammersmith Broadway and, also, the dismantling of all the heavy lifting equipment from the western end and its subsequent re-erection at the other end.

With this in mind, the contractors felt it would be expedient to continue erection from the west end only. This, to some extent, altered the stresses in the structure during construction owing to a different load distribution, but the consulting engineers found, on recalculation, that the method was feasible and it was subsequently adopted. It meant, however, if unloading was continued at ground level at the western end only, that the placing gantry had a very long travel with each segment, with the commensurate increase in the length of rail required. To avoid this, the contractors evolved a method whereby the precast segments were unloaded on the completed portion of the superstructure, which enabled other works to proceed concurrently behind the portion being erected.

The precast units were originally placed in sequence, one beam segment and then one cantilever unit, but it was later found to be more expedient to place a substantial number of beam segments only and then to place the intervening cantilever units. Adaptation of the lifting gantry and the transport trailers made it possible to handle the cantilever units in pairs, which halved the travelling time on both the road and on the superstructure.

The use of improved techniques so reduced the time taken for jointing between the units, reeving the prestressed strands and their subsequent stressing that these operations, originally timed in days, were finally timed in hours and minutes. The in situ joint concrete was contained in specially designed collapsible shutters, fitted between and inside the units, which could be rapidly stripped and re-erected in the next section.

Reeving was greatly accelerated by the use of an electric winch, designed and manufactured by the contractors, which drew the strands, two at a time, through the various ducts and saddles within the units. Stressing, originally carried out with two large low-pressure jacks, manufactured by Prestressed Sales, Ltd., one at either end of a cable, was speeded up by the use of a third jack—a new light-weight high-pressure jack developed by the same firm—which could be transferred quickly from cable to cable at one end while the two heavy jacks, which took longer to transfer, were used at the other.

A considerable amount of finishing and ancillary work still remains to be completed before the flyover is opened to traffic in November. This includes the encasement and grouting of all the prestressing strand—some 30 miles of it—and the anchorages, installation of the various services within the structure and approaches, road surfacing and heating, which incorporates some 70 miles of heating cable, and the installation of the safety fences and lamp posts. There is also a considerable amount of roadworks and service diversions to be carried out at ground level.

The consulting engineers responsible for the design of the flyover are G. Maunsell and Partners, working in close co-operation with the chief engineer of the L.C.C., Mr. J. Rawlinson, C.B.E., M.I.C.E. and the L.C.C.'s architect, Mr. H. Bennett, F.R.I.B.A. The main contractors are Marples, Ridgway and Partners, Ltd.

# PLANNING AND REDEVELOPMENT IN LIVERPOOL

## Rectification and Development of Road System

By H. T. Hough, M.Eng., M.I.Mun.E., M.I.C.E., M.T.P.I.\*

LIVERPOOL is the second largest seaport in Great Britain. It may be considered as a semi-circular area of some 43 square miles with the River Mersey as its diameter and its centre close to the Pier Head, where is situated the landing stage for the ocean liners.

Radial roads extend outwards within this semi-circle, and with the notable exception of Queens Drive, the greater length of which passes through suburban areas, it is deficient in ring roads. The value of the existing Queens Drive ring road is inestimable, and as it was built between 1907 and the early 1920's its cost was very much less than would have been the case if its construction had been deferred until today.

The geographical position of Liverpool is such that it is not a city on a national trunk route and, therefore, traffic does not normally travel through it to reach other places in Great Britain. For the same reason the Liverpool ring roads will never be by-passes in the ordinary sense of the term, their function being distributing roads for the city itself. One effect of this geographical position is that the traffic problem in the central area tends to be concentrated into morning and evening peak periods related to the commencement and ending of the city's daily business activities.

As a seaport of the first magnitude Liverpool attracts heavy commercial traffic to and from its dockside area, carrying a great volume of the country's exports and imports, and in that sense it is a through city with world-wide connections.

The Liverpool Development Plan, prepared in accordance with the Town and Country Planning Act, 1947, was approved by the Minister of Housing and Local Government on June 3, 1958. The programme extends to 1971 and the first review will be undertaken in 1963, i.e., at the conclusion of the first five years of the plan's operation.

### Former Growth and Characteristics

The City of Liverpool (exclusive of foreshore and river) occupies a total of 27,818 acres on the north-eastern bank of the River Mersey, and it is the focus of the Port of Liverpool. It is a fan-shaped area, with a river frontage of some 12 miles, and a maximum depth of about six miles.

Prior to 1835 the Parish of Liverpool comprised only 1,866 acres, centred around what is now the Pier Head, but in that year the town's area was nearly doubled by the addition of the adjoining townships of Kirkdale and Everton, with parts of West Derby and Toxteth Park. The boundaries were progressively extended until the present area was reached in 1952 by the addition of 454 acres in the parishes of Hale and Halewood.

The town rises gradually from the river to a ridge which runs from Everton in the north, where the 225ft. contour is reached, to Woolton in the south, where a 275ft. contour indicates the highest ground.

\*Extracts from Paper presented at the Annual Conference of the Institution of Municipal Engineers, Brighton. Mr. Hough is City Engineer and Surveyor and Planning Officer, Liverpool.



H. T. HOUGH

within the city boundary. East of this ridge the levels fall away until the 50ft. contour is crossed in the vicinity of the boundary at Fazakerley and the 25ft. contour is reached at Gateacre. The natural drainage of the western portion of the city is thus by gravity to the river, whereas the eastern portion drains inland.

The city is built up almost to its boundaries and in consequence there is an acute shortage of land for future development. This has had a profound effect upon the proposals contained in the development plan and is particularly reflected in the limited provision it has been possible to make for open space, especially in the more central areas of the city.

The Corporation owns approximately 8,100 acres of land within the city boundary, or about 30 per cent. of the area for which it is the local planning authority.

The survey of existing land use which preceded the preparation of the development plan clearly shows the results of the rapid and unplanned development of the past, especially in the older parts of the city, the intermixture of conflicting uses presenting a serious planning problem. Common examples of such conflict are the intrusion of industry into residential areas and the intrusion of dwelling houses into industrial areas, the latter condition being found frequently in the vicinity of the docks.

### Road System

An efficient system of communications is essential to the well-being of any city, and therefore the fundamental planning problem is the rectification and development of the road system, which at the present time is inadequate for the volume of traffic it is required to carry. This is particularly so in the central business area of the city, where there is serious congestion, especially at peak hours.

The main radial roads in the outskirts are generally of sufficient width, the more modern sections having dual carriageways, but the older sections of these roads, nearer to the centre of the city, are too narrow for present conditions, and the routes are often indirect. As the volume of traffic increases, the congestion will become more serious unless the existing road structure is improved and supplemented by a number of new routes.

Liverpool is principally deficient in ring roads to cater for the needs of north-south traffic and to act as distributive by-passes, although as already stated it possesses in Queens Drive an excellent example of this type of road.

The general main road pattern may be reduced schematically to a series of radial roads centred on the Pier Head, one ring road (Queens Drive) which intersects the radials at points between three and four miles from the Pier Head, and a number of cross connections. The actual routes deviate from the schematic pattern in the central area, and the existing system is deficient in cross connections. The river barrier on the west is at present crossed by one route, the Queensway Road Tunnel, and consideration is being given to the provision of a second crossing.

Serious traffic congestion occurs in the central business area of the city, especially at peak hours, and this is attributed to two main causes. The first of these is the reduction of the effective width of the carriageway by the parking of vehicles alongside the kerbs. The second is the use of the roads in this area by traffic which has no business in it and which would not enter if satisfactory alternative routes were available.

The existing road system includes one trunk road (Walton Hall Avenue—East

Lancashire Road, between Queens Drive and the city boundary) and at March 31, 1960, comprised the following types:

	miles
Trunk ... ..	2.98
Class 1 ... ..	64.54
Class 2 ... ..	33.64
Class 3 ... ..	38.40
Unclassified (adopted)	580.09
	<hr/> 719.65

These figures are exclusive of 45.23 miles of unclassified roads which are unadopted.

### Car Parks in Central Area

The solution to the first cause of traffic congestion is considered to be the prohibition of waiting in certain main roads in the central area, and orders have been approved by the Minister of Transport accordingly. The provision of adequate and suitably located car parks, however, is a necessary corollary.

Car parking is a problem which must be dealt with in conjunction with other traffic engineering questions and a solution must be found in each town if the centre is to be used efficiently. It is futile to construct new roads and widen the old if the effective width is to be reduced by the parking of cars on each side.

Adequate public car parking facilities must be provided and these may be subdivided into three types:

- (1) Parking in certain streets, the basis of selection being that parking would not lead to traffic congestion. These would be controlled by parking meters.
- (2) Surface car parks.
- (3) Multi-storey car parking buildings.

Sites in the ownership of the Corporation have been earmarked for four multi-storey car parking buildings, and negotiations are proceeding with private parties for the leasing of two of these sites for the erection of the necessary buildings, in one case to accommodate 280 and in the other 350 cars. In each case petrol and service facilities will be provided on the ground floor.

All the sites are in close proximity to the Inner Ring Road and it is hoped that their use will reduce the number of vehicles entering the heart of the business and shopping area which it surrounds.

A parking meter scheme is at present being prepared for submission to the Minister of Transport.

In connection with the erection of new buildings it is now the practice of the Council to require provision to be made for car parking within the curtilage in appropriate cases. In the central area of the city this is normally made in the basement of the building. A rigid code is not enforced, each case being considered on its merits, but the car parking standards of the L.C.C. are used as a basis, for instance in the case of office buildings one car space per 2,000 sq. ft. of gross floor space is considered suitable.

Liverpool has one large underground parking garage for 238 cars under a small city square constructed by the owners of the building which backs on to this square.

In regard to the provision of private parking accommodation the author considers that Section 20 (2) (c) of the Town and Country Planning Act, 1954, is particularly valuable. This provides that "Compensation under this part of this Act shall not be payable in respect of the imposition, on the granting of permission to develop land, of any condition relating to . . . the provision of facilities for the parking, loading, unloading or fueling of vehicles on the land".

The Council's proposed solution to the



second cause of the congestion, i.e., the use of the roads in the central area by through traffic, is the provision of an Inner Ring Road, and in view of the importance of this type of road to local authorities generally the author proposes to deal with this project in some detail.

The proposal to construct an Inner Ring Road to enclose the central business and shopping area of the city is regarded by the Council as the most important of a number of measures necessary to relieve the increasing traffic congestion in that area and the approaches thereto. It is intended to function primarily as a distributive road to the perimeter of the central area and secondarily as a by-pass to deflect through traffic from that area. The function of the road and the volume of traffic expected to use it require that the road be designed as a free-flow highway composed of surface, elevated and depressed components connected to the basic radial routes by intersections designed on a grade separation basis. These considerations also require that access to the road be strictly limited and that pedestrian traffic across the road be confined to those points at which pedestrian crossing facilities are provided by subways or over bridges.

The total length of the route is 4,000 yd. or thereabouts. Of this, 383 yd. on the Strand and Goree portion of the route have already been widened to dual carriageway and improved to an interim standard. It is now proposed to construct the section, 1,583 yd. in length, extending from Tithebarn Street at Moorfields to Lime Street at London Road, provision for which was made in the first five-year programme of the Development Plan. The selection of this section was based on the fact that its construction will connect vital points in the existing road pattern and provide substantial and immediate relief of traffic congestion.

The construction of this portion of the route will link the west and east sections, and will bring the greater part of the whole route into partially effective use as a perimeter road to the central area of the city. In addition, it will provide satisfactory connections with three of the six basic radial routes which converge on the central area, i.e. Vauxhall Road, Scotland Road and Islington, and will facilitate the carrying out of improvements to access and egress arrangements at the Kingsway terminal of the Mersey Tunnel.

Extensive investigation incorporating an origin and destination census and analysis has been carried out with particular regard to the portion of the road now under consideration, and from results of this investigation the widths of carriageways and layout of interchanges necessary to accommodate the estimated future traffic volumes have been decided and agreed with the engineers of the Ministry of Transport.

At the time of writing the Fine Art Commission are considering the impact of the Inner Ring Road on the amenities of the city centre and in particular on the cultural civic buildings in the area near the Mersey Tunnel portal (William Brown Street).

#### Engineering Aspects First Section

##### General

The road is to be dual carriageway throughout, and carriageway widths will vary between 24 ft. and 33 ft. depending on the calculated volume of traffic. Link roads at intersections have also been designed to accommodate the varying volumes of turning traffic.

Pedestrians will be provided with 10 ft. to 15 ft. wide footpaths along each side of the road, and facilities for crossing the road, by means of subways or footbridges, will be available at carefully chosen locations.

Except for one exit at Standish Street, access to and egress from the road will be restricted to three points which are described in the ensuing paragraphs. All side roads which are severed by the pro-

posed works will be provided with either connecting service roads or turning spaces.

##### Vauxhall Road Intersection

Limitations imposed by new and important buildings have restricted the size of a surface level junction at this intersection to a 180 ft. diameter roundabout with 40 ft. wide carriageway. The weaving sections on such a roundabout would be quite unable to cope with the calculated future volume of traffic wishing to use them and it is necessary therefore to introduce grade separation for the main through flow from Tithebarn Street to Marybone. A flyover to take this flow over the roundabout was considered and rejected because the existence of adverse gradients each side of the junction would entail excessively long approach ramps. The alternative is to provide an underpass for through traffic and this has been incorporated in the design.

##### Scotland Road Intersection

Calculations of future traffic volume at this intersection reveal that a surface level junction of most uneconomical size would be necessary to cope with the flow. Such a junction would in any case be inefficient and would slow down movement to the point where traffic would back up and block the lanes feeding it.

By providing a flyover for east-west and west-east traffic, the position is improved, but it is still quite uneconomical to design a surface level complement to the flyover.

It is therefore necessary to provide a through route for north-south and south-north traffic by way of an underpass from Byrom Street to Scotland Road.

Turning traffic remaining after extracting through flow can then be accommodated on a surface level unsymmetrical roundabout, each leg being separately designed to cope with the calculated volume of traffic.

##### Scotland Road Improvement

Following from the need to provide direct north-south traffic with a depressed road under the Inner Ring Road intersection, it becomes necessary to provide access and egress ramps to and from surface level in Scotland Road and Byrom Street. As carriageways for traffic remaining at surface level have also to be provided, a total width to accommodate four carriageways and two footpaths has to be allowed for in deciding upon the required improvement width.

##### Islington Intersection

Proximity of the intersection to St. Anne Street/Norton Street and the County Sessions House, completely precludes any possibility of designing an adequate surface level junction. The unusual disposition of the various desirable directions of approach to and from the intersection severely restricts scope in design. Following consideration of several alternatives, the author considers that the design now adopted is the most economical and efficient which can be obtained.

Traffic to and from the north and Lime Street is provided with free flow by an elevated road over Islington. Traffic to and from the Mersey Tunnel and Islington, which eventually is to be a dual-carriageway main route, is provided with free flow by a depressed road under the Inner Ring Road. In addition, traffic from Islington wishing to use the Ring Road in either direction is provided with free-flowing access. Traffic already on the Ring Road may similarly leave from either direction to Islington.

It is anticipated that the combined effect of the scheme, in conjunction with other measures relating to the routing of traffic inside the central area, will result in a marked decrease in traffic congestion within the area and in the northern and eastern approaches thereto.

##### Basic Road Proposals

The policy adopted in preparing all the road proposals is to utilise the lines of

existing roads wherever possible, so that less disturbance will be caused in carrying out the scheme than would be the case if a totally new system of roads were to be proposed. Moreover, it will generally result in each length of improved road becoming immediately available for use, and facilitate the gradual implementation of the proposals as redevelopment proceeds.

The application of this policy results in the basic road proposals being constituted as follows:

	Miles	Proportion of total length
Existing roads of adequate width ...	24	43%
Existing roads requiring widening ...	27	48%
Proposed new lengths of road ...	5	9%
	56	100%

##### Secondary Road System

The development plan indicates a secondary road system of major local traffic roads within the framework formed by the basic routes. With the exception of the ring roads, the basic roads are essentially long distance routes, whereas the major local traffic roads are in some cases short connections between basic roads, and in others long subsidiary routes intended to provide for the major local traffic requirements of the areas lying between basic routes. Whereas it is a fundamental principle of the basic roads that they should form the boundaries of self-contained communities, thereby reducing to a minimum the necessity for pedestrians to cross them, the major local traffic roads are planned to intersect these community units for the purpose of providing the main means of traffic distribution within them.

##### Road Widths

The Council's intentions are that all basic roads should be of sufficient width to accommodate dual carriageways if necessary, while it is assumed that these will not be required for major local traffic roads. In accordance with this policy, the practicable minimum width of a basic road is considered to be 80 ft., but a standard of 120 ft. is envisaged. The desirable minimum width of a major local traffic road is regarded as 60 ft., and where an existing road is required to be widened or a new road constructed, a maximum width of 80 ft. is considered appropriate.

##### Mersey Road Tunnel

A unique traffic problem arises from the city's position on the eastern bank of the River Mersey, in consequence of which any road to the west must be in the form of a bridge or tunnel. In 1934 the Queensway Road Tunnel provided a direct road connection between Liverpool and Birkenhead for the first time, and it has proved an invaluable link between Lancashire and Cheshire at this point. In addition to the main tunnel, entered at Kingsway, a branch tunnel serves the docks by means of the New Quay entrance.

A second Mersey crossing is now required to relieve the peak hour congestion and to cater for future traffic. A conference of Merseyside authorities is at present considering a comprehensive report on this problem, and a bridge has been recommended by the consulting engineers (Mott, Hay and Anderson).

##### £1½M. SWITCHGEAR ORDER

An order worth about £1½m. for the first switchgear for the new 400,000 volt Supergrid is to be placed by the Central Electricity Generating Board with English Electric. It will be installed at the new Burton, Notts, power station on the new Supergrid.



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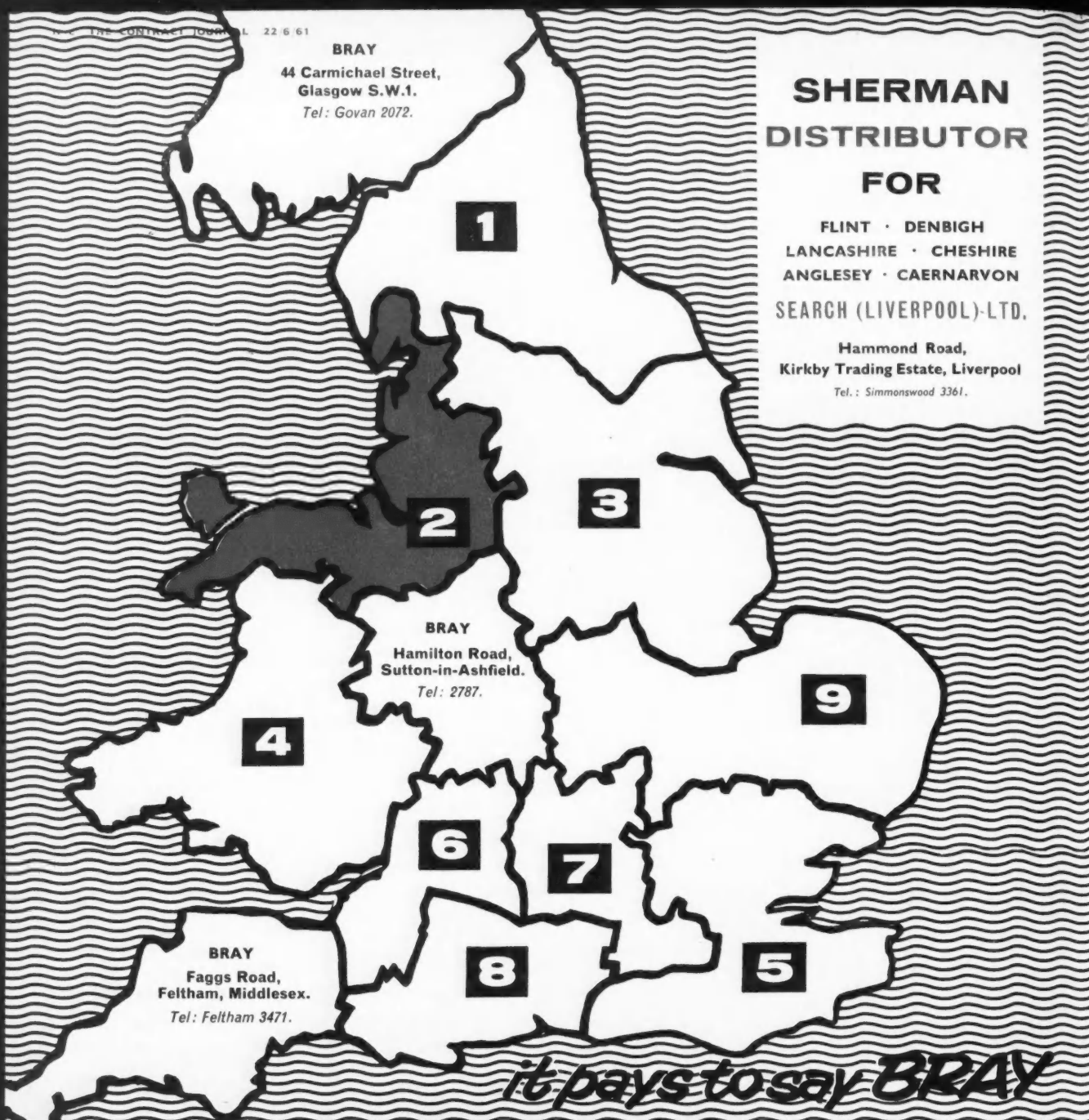
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## HIGHWAY MAINTENANCE IN DEVON

### Floods Hit Normal Works Programme

THE year ended March 31, 1961, will be remembered in Devon for the severe damage and dislocation of road services caused by the autumn and winter floods, states Mr. R. B. Carnegie, C.B.E., county surveyor, in his recently published annual report.

"Serious flooding occurred in the county on September 30 and October 1 and again on October 6/7, followed by widespread floods later in October and early December," says Mr. Carnegie.

"The most severe flooding was concentrated in the Exeter, Exmouth, Topsham, Woodbury, Honiton, Crediton, Newton Abbot, Torrington, Tiverton, Colyford, Axmouth and Brendon areas, and very extensive damage was caused to many roads and bridges. At one time over 100 county roads were completely blocked by land slides and slips of hedgebanks. All surveyors in the county made it their immediate task to ensure that all blocked roads were opened to traffic at the earliest possible date.

"I have already submitted a comprehensive report upon the flooding to the County Council and I do not propose to repeat the details except to record that the resultant repairs to roads, bridges, culverts, etc., necessitated supplementary estimates amounting to near £170,000. This additional emergency work has kept all members of my staff working at high pressure and for long hours throughout the winter months. It has been necessary in some instances to engage outside contractors to assist on emergency works. It has also caused serious interruption of our normal works programme, and delayed the completion of many schemes which should have been proceeding at the time."

Following are further extracts from Mr. Carnegie's annual report:

#### Improvement Schemes

During the current year 88 classified road schemes of various sizes have been completed by direct labour, a further 15 by delegated authorities and eight more by claiming authorities. The total would have been higher if there had not been considerable delays due to the extremely wet autumn and winter, and to the additional work made necessary because of the flood damage.

The largest scheme in hand is the new Clyst St. Mary By-pass, estimated cost £139,563. The scheme consists of dual

24ft. width carriageways commencing near Sandy Gate Farm at the Exeter approach and terminating at a roundabout on the Exmouth Road. A single 33ft. carriageway continues in the direction of Lyme Regis and the realigned road to Exmouth, 24ft. wide, is one of a future dual carriageway system. Link roads connect Clyst St. Mary village with the new by-pass at the roundabout, and the Lyme Regis Road at the White Lodge.

Work on this scheme was commenced in June, 1960, and despite the wet weather, resulting in extensive flooding on the site during the autumn and winter, progress has been highly satisfactory.

In September the Ministry of Transport provided a special grant of £94,800 for works which could be substantially completed before the end of the financial year. With the corresponding rate contribution this enabled work totalling £108,000 to be put in hand for the county, and £32,000 for Torquay and 6,500 for Paignton, the claiming authorities. Schemes for which land was readily available had to be brought forward for this purpose, showing the advantage of purchasing land in advance of requirements.

#### Agricultural Roads

The almost unprecedented wet weather seriously hampered execution of the agricultural schemes this year, because the type of road involved is generally located on high ground, often between Devon hedge banks, and suffering from inadequate drainage.

The authorised programme, as the following summary shows, has, however, been completed: Estimate—£50,000; schemes carried out—14 road improvements (four cattle grids); mileage improved—17.93 miles (unclassified county roads), 3.62 miles (private roads).

Gross expenditure in Devon over the four-year period since the Agriculture (Improvement of Roads) Act was put into operation is now approximately £215,000, of which £70,000 is paid by the county. The total mileage covered by these improvement schemes is 94.5, in the proportions of 84.33 miles unclassified and 10.28 miles private. The private roads are, of course, adopted as public highways after completion of the works. In addition to the road improvements, 11 cattle grids have been constructed all on unclassified roads. The average cost per mile was £2,243 of which the county bears £741 per mile.

Now that a considerable mileage of hitherto difficult or impassable rural roads has been brought up to a satisfactory standard, it is beginning to be apparent that increased public use is already being made in some cases. This may point to the desirability of consideration being given to some, at least, of these improved roads being submitted to the Ministry of Transport for up-grading to Class III.

I understand that the allocation of funds to Devon under the Agriculture (Improvement of Roads) Act, 1955, is the highest in the country. I consider these road improvement schemes to be of great importance.

#### Plant

The following table shows the total items of plant owned and operated by the roads department:

Rollers—steam, 34; diesel and petrol, 25; footpaths and vibrating, 23.

Lorries, etc.—7-ton diesels, nine; 4/5-ton petrol, 101; 2/3-ton petrol, 16; tractors, 34; vans, 46; 20-ton low loader, one.

Miscellaneous plant—mechanical shovels, 21; dumpers, one; excavators, four; concrete mixers, 22; graders, three; scarifiers, 24; water carts, 48; Warsop drills, 20; Barber-Greene finishers, two; compressors, 12; trailers, 26; snow ploughs, 57; motor scythes, 23; towed mowing machines, 30; portable traffic signals, eight; Mono-rail and wagons, two; box spreaders, 10; concrete weighbatcher, one; concrete consolidators, three; tractor scoops, 18; post hole borers, two; gritters—winter, 76 and surface dressing, 78; self-propelled white line machine, one; tractor shovel, one; mobile laboratory, one.

Quarry plant (complete, consisting of primary and secondary crushers, screens, driers, mixers, steam and diesel engines, electric motors, tar and bitumen boilers), three.

Clarmac bitumen heating plant—one plant with two tanks of 5,000 gallons capacity each.

The valuation of the above plant, which is written down each year, was approximately £160,000 at March 31, 1961.

#### Laboratory

The testing of supplies of material for roadworks continued during the year. The mobile laboratory began operations and proved highly successful, as tests on site gave immediate results, and supplies were corrected, when necessary, before appreciable quantities of sub-standard material were delivered.

Because of the large road mileage in the county, and with surfacing work often being carried out simultaneously in all the 14 divisions, it is impossible for the mobile laboratory to test all the material being supplied. It is intended, therefore, to train an assistant to work at the existing static laboratory at the Central Repair Depot, Pinhoe. Here samples sent in by the divisional surveyors will be tested and a check kept on the quality of material supplied to sites not visited by the mobile laboratory. In the event of unsatisfactory results the mobile laboratory will be sent immediately to exercise local control. During the year covered by this report 696 samples were tested, of which 94 failed to comply with the appropriate British Standard Specification.

## A.A. TO OPEN SIX NEW OFFICES

### Large-Scale Expansion Programme

SIX new offices are planned by the Automobile Association as part of a large-scale programme of expansion and decentralisation to be carried out over the next few years.

A major part of the project, involving a capital sum of about £750,000, will be the completion of a group of "satellite headquarters" round London to form a ring between Fanum House, Leicester Square, and the A.A. area offices already

in operation at Guildford, Maidstone, Chelmsford and Reading.

The first of the new satellites is already in operation at Stanmore. Soon there will be another at Teddington to serve the growing number of A.A. members in south-west London, south Middlesex and Metropolitan Surrey. Planning permission has been sought for a five-storey building, complete with two-tier parking arrangements, on the site of the Savoy Cinema, where demolition work has already started.

A completely new provincial headquarters building is to be opened in York to serve the North and East Ridings of Yorkshire. A property has been acquired close to the City Centre, and development awaits planning permission.

Another new A.A. office is to be opened in Norwich, as a replacement for the existing area headquarters. Redevelopment of a nearby property will be carried out during the next 12 months.

Tonbridge U.D.C. is to hold an architectural competition for the design of a civic centre on the Upper Castle playing fields.



## John Sumner's Notebook . . .

AS was confidently anticipated at the beginning of the year, building contractors are going through an exceptionally active period. In terms of money the first quarter of this year resulted in work being done to the estimated value of £561m. New industrial work carried out for private developers went up by £3m, to a total of £96m. This compares with a figure of £75m. in the first quarter of last year. Private housing work goes on rising steadily—£102m., compared with £88m. a year ago. Housing carried out for public authorities remains virtually static.

One of the most interesting aspects of these figures, issued by the Ministry of Works, is that section concerned with the volume of work done by direct labour departments. The figure for the first quarter of 1961 is £108m. It was £109m. in the last quarter of 1960 and £107m. in the first quarter of that year. These figures seem to suggest that the rise in direct labour activities in recent years has been halted. Could it be that local authorities here and there are beginning to appreciate the inherent weaknesses and deficiencies of the system?

One of them may be at Portsmouth, for I note that the Portsmouth Group Hospital Management Committee proposes a cut in the direct labour force employed on hospital buildings and maintenance. It has been explained to the committee that the number of direct labour staff should be reduced by 11 and that the permanent two hours of overtime should be stopped. Together this would mean a saving of between £12,500 and £15,000 a year. This re-arrangement is proposed because it is considered that last year "the men worked their materials out in the early part of the year and in the latter part had to be slacken off, and this has been very expensive."

While the Portsmouth Group Hospital Management Committee seems to be taking a realistic view of direct labour, I am wondering what my readers will think about the apparent attitude of the Hackney Borough Council. In that metropolitan borough there is published at regular intervals a publication known as the *Hackney Civic News*. In the May edition an article on extensions to council housing estates starts: "Once more the value of the council's direct labour scheme has proved itself." Of course, it hasn't done anything of the kind. It has merely submitted the lowest tender in competition with several building firms. I am grateful to Mr. John Boast, of North London, for pointing out to me that there is no guarantee that Hackney's direct labour department will keep within its tender price, nor that the ratepayers of that borough will not ultimately be called upon to foot extra costs that may arise from mistakes on the job or increases in the costs.

Mr. Boast points out a more intriguing feature of this news item. It is that the *Hackney Civic News* is an official publication of the borough council and that the cost of its production is included in the rates. On this count the near praising of Labour Party doctrines in the publication seems inappropriate and the Town Clerk of Hackney may like to comment on the matter.

### New Claim on the Way?

THE building unions are now closing their ranks and forming up in preparation for another wages battle at the end of the year. Hard on the heels of a decision by the A.S.W. at their recent conference to press for a further wage increase on top of the 6d. already due on October 2 next, the Amalgamated Union of Building Trade Workers has been dealing

with over 20 motions for pay increases at its annual conference at Whitby. As the A.S.W. and the A.U.B.T.W. together control about half of the voting power within the National Federation of Building Trades Operatives, it seems likely that the parent organisation will be persuaded to submit a wage claim in the usual way, whether it will be advisable to do so or not.

If the operatives' leaders do submit a claim they probably know before they start that time and circumstances are not all that much on their side. The public will not, unless I am much mistaken, smile benevolently on a claim for higher building wages lodged within a month or two of them being asked to pay for a 6d. an hour increase and a two-hour deduction in the working week.

The operatives may argue that in view of the time between the decision and its execution, as demonstrated on the occasion of the last wage claim, the sooner they get a new claim into orbit the better. If this is to be the spirit in which they submit another claim, and it may well be, then there may be less risk of it back-firing.

For the record I think that those operatives who are being led to persuade people that they have had no increase in wages for 18 months should have their ears tweaked. There was, after all, a cost-of-living sliding scale increase of 1d. in February last.

THERE has just been published a report of a British Trade and Industries Mission of businessmen and industrialists who visited Iraq in the early part of this year. It makes interesting reading for those building and contracting firms who carry out overseas contracts. One of the members of the mission was Mr. N. O. K. Johnson, overseas contracts manager of Balfour Beatty and Co., Ltd.

There is plenty of scope for business connected with Iraq's programme of industrialisation and development. Some of it is being carried out with help from Russia and other Eastern European countries, but this is only a fraction of the expansion envisaged. With oil revenues at a high level, Iraq's foreign exchange position is sound and provides a solid basis for the country's development. There seems to be no reason why overseas contracting firms here should not compete for the construction work that is bound to be involved, particularly as the Iraqis seem to have made it clear that an important part of the development work will be available for foreign civil engineering contractors and that they propose to revise their conditions of contract accordingly.

It is of interest to note that the mission had discussions, among others, with the Iraqi Ministers of Industry, Trade, Planning, Works and Housing, and Communications, and with their senior officials. Talks were also held with officials of the Ministries of Defence, Health and Agrarian Reform, the Agricultural Bank, the Railways Administration and the Industrial Bank. These give some idea of the wide range of possibilities ahead in the construction field.

### Firm Warning

MY note of a month or so ago about the difficulties being experienced by the Portsmouth Corporation in getting contractors to tender in sufficient numbers for its construction contracts has had a sequel. Mr. Kenneth Privett, M.A., F.I.O.B., the President of the lively Portsmouth Builders' Association has written to the corporation making it clear that his members wish to see the apprenticeship clause retained in corporation contracts (the corporation's idea had been to remove

it in order to encourage large national contracting firms to compete for its work), but are unhappy about firm price tendering.

"We should," writes Mr. Privett, "be sorry to see the apprenticeship clause deleted from your contracts, because we are sure that it is not only beneficial to the building trade that boys should be thus employed, but it also assists your corporation to fulfil its obligations in regard to further education and youth employment in the City."

Mr. Privett then goes on to say that the members of his association consider that one of the main disadvantages of corporation tenders is the adherence to the clause which requires firm prices. In these uncertain times, he points out, it is asking a great deal of anyone to commit themselves to firm estimates over a period of up to two years, when there is a possibility of increases in wages and materials, due not only to the rise in the cost of living, but also to acute shortages of labour—factors over which a contractor has no control.

This attitude towards firm price tendering is indicative of the general disgruntlement of many contractors in all parts of the country. It cannot be taken as anything other than a serious warning to building owners and architects who are beginning to get into the habit of thinking that firm price tenders are their's by right. Building firms could refuse to give firm prices tomorrow if they wished, but so far the builders' official national policy remains, I learn, in support of firm prices, despite the inability or unreadiness of most building owners and their architects, official as well as private, to provide building contractors with proper documentation when inviting tenders and to accept a tender without delay. Mr. Privett's letter suggests to me that unless there is an improvement in the behaviour of the industry's clients in this respect then the day may not be long distant when the official policy of the builders will have to be reviewed. If this should be so it would be a pity, for my information is that everyone, builders included, recognises the merits of the firm price system.

### Painting Tenders

WHILST on the subject of tendering I note that a warning has gone out from Mr. E. W. Cartledge, president of the National Federation of Master Painters and Decorators of England and Wales, and Mr. G. Greenhalgh, the new president of the Federation of Painting Contractors, regarding the damaging consequences to the whole of their section of the industry of the present tendency among firms to submit unbelievably low tenders. It seems that there never has been a time when the painting and decorating contracting industry has been so plagued with such unrealistic tendering as now. In fact, I am informed that in some prices at present being quoted for firm price contracts several of the firms involved are apparently ignoring the increase in wage rates due to come into operation in October. I also learn that the chief officer of an authority which places thousands of pounds worth of painting contracts every year has had quotations the lowest of which have frequently been no more than half the amount of the highest. Very often the lowest tenders have been from firms which he knows would do a satisfactory job, but which would quite obviously lose money in carrying it out.

There may be several explanations of this. A perhaps less well publicised one is the inadequacy of many painting specifications. As a colleague in the trade indicated to me the other day, it is not unusual to see it stated in a specification that ceilings and walls have to be "covered with emulsion" and other walls to be "covered with paper." Just like that!

It seems to me that the painting and decorating trade has got a big job on hand here. My advice, however, is that it should get its own house put in order first and improve its organisation.



## MANCHESTER'S NEW COURTS OF JUSTICE

### £1,200,000 Building Faced in Portland Stone and Granite

**N**EW Courts of Justice built at Gartside Street, Manchester, for the City Corporation at a cost of about £1,200,000, were opened recently by H. M. The Queen.

Replacing the Assize Courts, Strangeways, the new courts are housed in a building, 289ft. long, 124ft. wide and 75ft. high, and faced in brick, Portland stone and Cornish de Lank granite. The building is of steel frame construction with reinforced concrete and hollow tile floors and roofs and reinforced concrete stairs. All steelwork is encased in a minimum of 2in. thick concrete for fire resistance.

The two public entrances, in Dolefield, lead into halls containing automatic lifts and stairs to the upper floors and cloak-rooms and give access to a range of rooms along the front of the building which include toilets for both sexes, and accommodation for witnesses and medical inspection, and a sick room and children's room. In the heart of the building beneath the criminal courts are the cells for the prisoners awaiting trial and suites of rooms for men and women prison officers. On

the ground, in order to reach a satisfactory foundation and also to provide the very large spaces required to house the thermal electric storage heating plant, and the elaborate ventilation and air conditioning plant as well as the engineers' rooms, strong rooms, storage and the lift machinery which is placed in the basement in order to avoid ugly excrecences above the flat roof. Provision has been made for subway connection to the future magistrates court block and county court and coroner's block which will flank the building on the south west and north east.

In the centre of the piers flanking the central approach is a broad flight of steps leading up to the ceremonial entrance on the first floor. Beneath these steps are secondary entrances for spectators.

The first floor is the principal floor where are situated the three criminal courts and three civil courts on either side of the central axis. The court adjacent to the south west end of the building is occupied by the recorder's court and that at the opposite end is the chancery court; both these courts are fitted with double glazing in the interests of sound insulation.

The floor of the great hall is in marble tiles in a decorative pattern. Piers between the windows are faced with polished Portland stone. The central ceremonial entrance is emphasised by a triple arched aluminium canopy supported on ornamental raking standards surmounted by gilded eagles from the civic badge.

In addition to the processional corridor there are corridors at each end which lead to the professional corridor at the rear of the courts, extending the whole length of the Gartside Street front between the two lift and stair halls.

Behind the bench in each court there is a judge's room and a jury room, both with toilet accommodation en suite. All the courts and judges' and jury rooms are fully air-conditioned, and are treated to provide the best possible acoustic conditions. From the central corridor there are stairs to the witnesses rooms and other rooms on the ground floor and also to the public galleries of the two largest courts.

The second floor extends along the Gartside Street frontage and the two ends of the building, the great hall on the Dolefield frontage extending through two floors.



Exterior view of the Manchester Courts of Justice

the south west side there is a covered enclosure where prison vehicles can be unloaded in security.

Parallel to the Gartside Street front there is an internal service road off which there is a delivery bay and goods lift serving all the upper floors. The rooms fronting the street comprise a suite of offices for the police, electricity sub-station, switch and battery rooms and cleaners and porters rooms. At the north east corner is the jurors entrance with lift and stairs to the upper floors. In the centre is the judges' private entrance for use on other than ceremonial occasions, with a room for their attendants and lift and stairs to the judges suite of rooms on the floors above. At the south west corner is the barristers and solicitors entrance also with lift and stairs to the professional suites on the upper floors.

Beneath the ground floor is an extensive basement over the whole of the site. The considerable excavation involved and the heavy retaining walls which enclose it were rendered necessary by the nature of

On either side of the processional corridor are the two largest courts, one for criminal cases and the other a civil court; they adjoin smaller courts for the same purposes but provision has been made below so that the second civil court could be used as a criminal court by the erection of a demountable dock. The courts are furnished in walnut with coloured hide seating. The four centre courts are top lit from large laylights.

All these courts are entered from the great hall, 225ft. long, 22ft. wide and 28ft. high which extends the whole length of the elevation to Dolefield, with lift and stair halls at either end where the second floor halls afford views along the whole length of this concourse. The whole of the area between the structural piers on the external side is filled with polished plate glass. On the inner side are the entrances to the various courts and between them is fixed leather upholstered seating and a background of polished walnut knuckle bone strip panelling over an acoustical absorbent.

These floors contain offices and the judges' dining room. On the Dolefield frontage at the third floor level are the barristers lounge and dining room, a large public restaurant and a suite consisting of ante-room committee room and retiring room which could also be used for court purposes when required.

The fourth floor extends over the central spine of the building and mainly houses the water tanks and the service lift machinery.

#### Heating and Air Conditioning

The heating and hot water supply installation is on electric thermal off-peak storage, with mid-day boost, the plant being designed to be fully automatic in operation. The heating consists of ceiling, floor and wall panel installations, and also provides hot water for the heating batteries for the ventilation.

There are four electrode boilers each rated at a maximum of 600-kW on an electrical supply of 415 volts, three-phase, (Concluded on next page)

*In Parliament*

## EFFECT OF NEW RATE OF INTEREST ON LOCAL AUTHORITY FLATS

**D**URING question time in the Commons last week, Mr. Frank Allaun asked the Chancellor of the Exchequer what would be the total cost to a local authority of a £2,600 multi-storey flat after interest had been paid for 60 years at the new Public Works Loan Board rate of 6½ per cent.; and how much per week the interest charge involved.

Replied the Economic Secretary, Mr. A. Barber: The total costs of borrowing £2,600 repayable by half-yearly annuities over 60 years would amount to £10,000. The average weekly interest charges on such borrowing would amount to £2 7s. 4d.

Mr. Allaun: Are not those staggering figures? Is the Minister aware that if the repayment charge is added, the total loan charge would be £3 4s. per week even without rates and repairs? Does he admit that this intolerable burden, for which the Government's financial policy is responsible, has halved the council house building during the last six years and has shocked house buyers too?

Mr. Barber: There is another aspect to this matter. Housing provided in accordance with the Government's housing policy, including the multi-storey flats which are referred to in the Question, attracts a substantial subsidy from my right hon. Friend the Minister of Housing and Local Government. This considerably reduces the amount of rent which a council needs to charge.

### Housing Loans

Mr. Barber later rejected a suggestion from Mr. Allaun that the 3 per cent. housing loans, available to local authorities up to 1951, should be restored. He said it would cost the Exchequer roughly £8m. per year to allow the Public Works Loan Board to make 60-year loans to local authorities at 3 per cent., instead of the current rate of 6½ per cent. in respect of the 142,500 or so council houses now under construction.

### Hospital Building

Mr. Boydon asked the Minister of Works

what percentage of the nation's building capacity he expected the hospital building programme to take up in 1962-63, 1963-64, and 1964-65, respectively.

The Parliamentary Secretary, Mr. R. Thompson, in a written answer replied that the programme had taken up approximately one per cent. of the capacity of the industries during the year ended March, 1961. As the Minister of Health had stated in his announcement on January 25, the programme was expected to rise. The capacity of the industries might also be expected to rise during the next four years and the percentage of this capacity taken by the hospital building programme was unlikely to change appreciably.

### Tay Road Bridge

Questioned about the Tay Road Bridge by Mr. G. M. Thomson, the Secretary of State for Scotland, Mr. John MacLay, said he doubted whether it would be practicable to advance the starting date of 1963. The date, which had been agreed with the local authorities concerned, had taken many factors into account, such as the time necessary for them to take powers to prepare the engineering plans; and the competing claims of other road projects on funds.

### Worcester Link Road

The Minister of Transport was asked by Mr. Nabarro if he would take steps to ensure that the proposed Worcester northern link road was completed as soon as possible after the opening of the M.5

Replying, the Joint Parliamentary Secretary to the Ministry of Transport, Mr. John Hay, said that they hoped shortly to make the order establishing the line of the road. They would then invite Worcestershire County Council to prepare the scheme to contract letting stage.

### Reflecting Studs

Mr. Sorensen was informed by the Minister, Mr. Ernest Marples, that a rough estimate indicated that at least two-thirds of the trunk and class I roads which would benefit from having reflecting studs were already equipped with them. The average

cost per mile of providing and laying the studs was £125. The estimated life of the metal part of the studs was about 20 years and of the rubber part about 4½ years.

### Underground Garage

In a written answer, the Minister of Works, Lord John Hope, told Viscount Hinchinbrooke that a scheme had been sketched out and was being examined for laying out Abingdon Street site as an open space, with an underground garage beneath. He hoped to be able to make an announcement about it before very long.

### £750,000 CONTRACT FOR JOHN HOWARD

John Howard and Co., Ltd., London, S.W.1, have been awarded the contract for the construction of the Frome Valley sewer from Stapleton Road, Bristol, to Winterbourne sewage works, a total distance of six miles of tunnelling. The contract price is in the region of £½ million.

The consulting engineers are Maynard, Froud and Stevens, of Bristol, and the promoters are the Mangotsfield Urban District Council, the Sodbury Rural District Council and the Thornbury Rural District Council.

Work will start shortly and the contract will take about two years to complete.

### NATIONAL HOUSE-BUILDERS REGISTRATION COUNCIL

The Council of the National Federation of Building Trades Employers has approved recommendations by the General Purposes Committee of the Federation of Registered House-Builders to nominate the following representatives to serve on the National House-Builders Registration Council. They are:

H. E. Comben (London), H. Ford (Solihull), R. W. King (London), Sir Robert Lloyd (Liverpool), Ald. I. W. Owen (Stockport), D. C. W. Piercy (London), J. L. Rawsthorne (Wallasey), G. W. Reed (London), F. Russon (Birmingham), H. Bayliss Silver (London), B. F. Stanbury (Plymouth), Norman E. Wates (London) and R. W. Whittington (Southampton).

Mr. C. D. Calverley (Leicester) is an ex-officio member of the Registration Council as Hon. Vice-president.

(Concluded from previous page)  
one boiler being a standby. The boiler loads can be varied from 110 per cent. of the full load rating down to a minimum of 3 per cent.

A motorised modulating three-way valve is provided on the primary storage and in conjunction with a flow thermostat and electronic control ensures that if the water leaving the electrode boiler is not up to storage temperature, the valve will by-pass the storage vessels leaving the system on full recirculation until the water is up to temperature. The valve will then modulate allowing sufficient water to be recirculated to ensure that low temperature water cannot be introduced into the top of the storage vessels.

Nine mild steel horizontal storage vessels are provided with a total storage capacity of 60,000 gallons of water at 250 degrees F. These vessels are covered with one layer of 2in. thick resin bonded glass silk slabs, finished with a ¼in. thick hard setting composition reinforced with wire netting.

Two circulating water pumps of the centrifugal direct driven type are provided. Duty is 684 g.p.m. against a 26ft. head, and anti-vibration mountings and connections are fitted to eliminate noise and vibration.

The hot water supply consists of two 100-kW electric immersion heater banks, one being standby in a 3,000-gallon copper storage vessel, storing water at 200 degrees F. Duplicate centrifugal super silent pumps, each with a duty of 20 g.p.m.

against a 5ft. head are fitted and all parts in contact with the water are in gunmetal. Water is circulated from this central supply to all lavatory basins, kitchens, and cleaners' sinks, etc.

Each of the six courts, together with its own judge and jury rooms, has its own separate air conditioning plant situated in the basement, which allows for varying conditions of occupancy. Fresh air is drawn in from two main air intakes on the roof through ducts into the basement plant room. Extract air from each court is discharged through ornamental grilles on the outside of the building, provision has also been made for recirculation according to weather conditions.

Conditioned air designed to give a maximum temperature of 70 degrees F. in summer with a relative humidity of 50 per cent. and 67 degrees F. in winter, the humidity control in the latter case has been dispensed with.

The conditioned air is introduced into each court through ceiling diffusers and extract air is taken out from beneath the judges benches. The concourse also has its own separate plant situated in the basement and supplies conditioned air to the same temperatures and humidity as to the six courts. The cell, amenities block and restaurant, have been designed to maintain 67 degrees F. when the outside temperature is 32 degrees F.

Finishing work remains to be done on several parts of the building and final

completion will be in about three months. Actual final cost is therefore not yet known, but the following figures are of interest:

	£
Sub-structure ... ..	69,140 final cost
Steel frame ... ..	121,744 " "
Concrete casings ... ..	103,104 " "
Floors, roof and stairs	
Waterproofing base-	
ment ... ..	9,552 " "
Superstructure ... ..	812,392 not yet comp.
Lifts ... ..	34,844 " "
Diversion of sewers ... ..	20,000 " "
	1,170,776

This cost excludes furnishings which are estimated to cost £23,267. The final cost is expected to exceed the figure of £1,170,776, but taking that figure as a basis the unit costs work out as follows: Cost per cu. ft., 8s. 3½d.; cost per super. ft., 145s. 5½d.

### Architect and Contractors

The building has been designed by, and is being erected under the direction of Mr. Leonard C. Howitt, M.Arch.(L'pool), D.A. (Manc.), Dip.T.P., D.P.A., F.R.I.B.A., M.T.P.I., F.R.S.A., the city architect.

The main contractors are: Wm. Moss and Sons, Ltd., Liverpool, superstructure; R. Carlyle and Co., Ltd., Manchester foundations; Redpath Brown and Co., Ltd., Manchester, steelwork; and Kleine Co., Ltd., Manchester, floors.

# PRECAST CONCRETE BLOCKS IN PACKS

By H. G. Vallings, A.M.I.Mech.E.

THE practice of supplying bricks in packs secured by a steel strap is well established and is now being extended to precast concrete blocks of 18in. by 9in. nominal size (BS. 2028). The advantages of packaging lie, as for packed bricks, in the efficiency with which the packs can be handled at all stages from the manufacturer to the bricklayer and in the low incidence of damage to individual blocks, the latter being of particular importance in view of the fragile nature of some of these products.

Certain firms are supplying blocks in packs 36in. high, 9in. thick and about 20in. wide (see Fig. 1). Typical arrangements of blocks of various thicknesses in packs are given in Table 1.

The pack 36in. in height was adopted for the 18in. by 9in. blocks after trials carried out by the Building Research Station to determine the arrangement of blocks that would form a stable pack which could be transported and handled without damage. Also, since loose blocks are normally loaded about 36in. high on lorries, the pack adopted enables the same payload to be carried.

The strap used to secure the pack should have adequate strength and be efficiently sealed. It is recommended that cold rolled steel strapping of 40-50 tons/sq. in. tensile strength be used as follows:

for packs weighing—  
up to 300lb.... 1/2 in. wide by .024in. thick  
300lb. to 400lb.... 3/4 in. wide by .024in. thick  
400lb. to 500lb.... 1 in. wide by .024in. thick

## Handling Block Packs

Equipment already available to contractors for packed bricks can be used for handling packaged blocks. The tines of the standard barrow used for packed bricks can be quickly adjusted to a higher position to accept the block pack (see Fig. 1). When the pack barrow is used for unloading a lorry with the aid of a ramp, as in Fig. 2, one man can unload the packs and deposit them some 30ft. from the lorry at the rate of about 60 packs per hour. If two ramps are used, up to four barrowmen can work without interference and unloading rates as high as 240 packs per hour are possible. The barrow is also used for loading packs on

to a hoist and for distributing them around the building to the bricklayers.

If a crane is available, the packs can be lifted direct from the lorry with special lifting devices and thereby transferred to the building in one operation. Any further distribution of the packs that may then be required can be carried out with pack barrows. Lifting devices are available for handling either four or eight packs. In the four-pack model the counterbalanced doors of the safety cage are opened and

hooks have to be engaged and disengaged for every load hoisted, three hook frames are provided, any one of which can be quickly attached to or detached from the main assembly. Thus it is possible for a second hook frame to be attached to a new load of eight packs while the crane is delivering the first, and similarly, when the first load is landed the crane can return with an empty frame without waiting for its load to be unhooked. The safety cages prevent any part of the load falling in the

Nominal Size of Block inches	No. of Blocks per Pack	Wall Area per Pack sq. yd.	Width of Pack inches
18 x 9 x 2	20	2 1/2	20
18 x 9 x 2 1/2	16	2	20
18 x 9 x 3	14	1 3/4	21
18 x 9 x 4	10	1 1/4	20
18 x 9 x 4 1/2	10	1 1/4	21 1/2

Note. The packs sometimes contain a larger number of blocks and are 24in. wide.

the device is lowered on to the top of the packs when eight hooks are engaged (two to each pack) under the straps. The crane then lifts the packs clear of the lorry and the doors of the cage are swung down (Fig. 3) so as to completely enclose the load. The eight-pack model shown in Fig. 4 is similar in principle but, since 16

rare event of failure in a strap. These lifting devices were designed originally for packed bricks, but the manufacturers have introduced new models with larger cages which will accept both the brick packs and the block packs specified in Table 1. The cage of the four-pack model has also

(Concluded on page 1536)

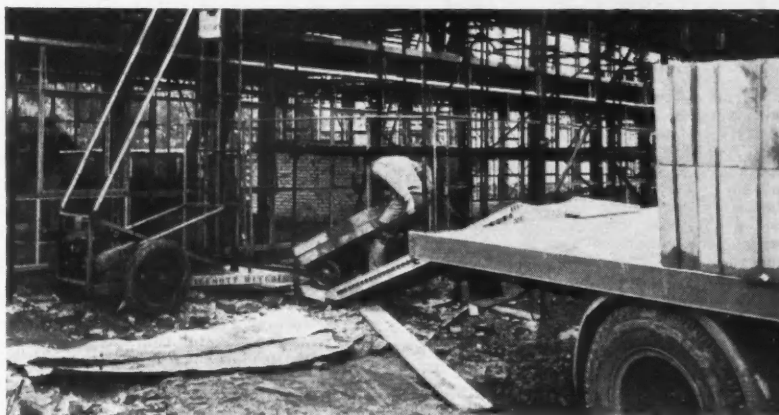


Fig. 2. Unloading packs with aid of barrow and ramp

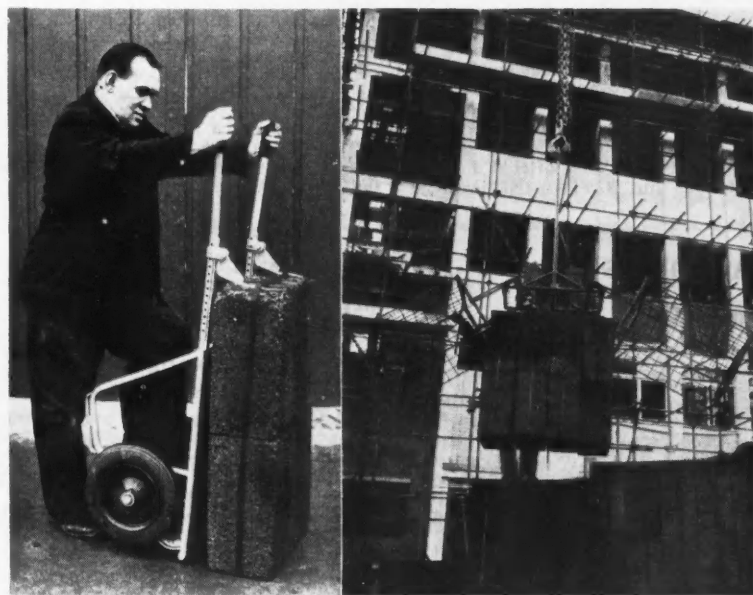


Fig. 1. Tines of standard pack barrow adjusted for handling a pack of blocks

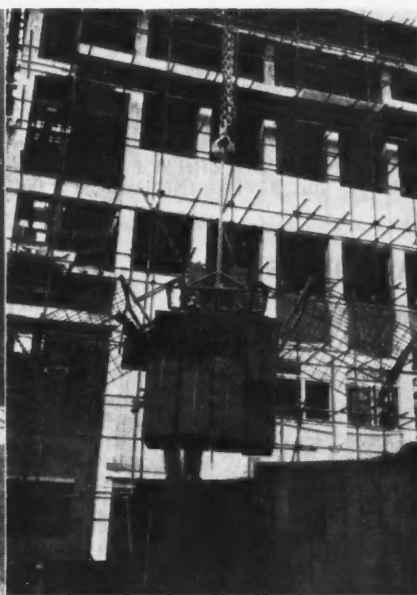


Fig. 3. Lifting packs direct from lorry to the building with the four-pack cage



Fig. 4. Eight-pack cage with separate hook-frames



## THIRD WORLD SAFETY CONGRESS

### By "Dragee"

THE triennial international safety conference has now become a well-established facet of world industry. So far, safety experts have gathered together in Rome, Brussels and Paris—and a very agreeable arrangement it is, too. On this most recent occasion, however, Paris in the Spring was disappointingly cold and wet, so that—as one delegate put it—we were at least spared the embarrassment of returning to our hives with sunburnt visages.

The Third World Congress on the Prevention of Occupational Risks—to give it its full title—was organised by the National Safety Institute of France, in collaboration with the International Social Security Association and the International Labour Office, and was held at the splendid Palais de Chaillot. The main work of the conference was divided into three committees dealing respectively with research, technology, and medicine. Great Britain took part in the second of these, and for this purpose, at prescribed intervals, the delegates descended several flights of stone stairs—presumably as a qualifying test of endurance—and in due course the survivors re-ascended the same stairs in search of nourishment, fresh air, and a glimpse of daylight. By way of a change, some of the delegates went up the Eiffel Tower, just to see what it felt like to ride in a lift.

#### Training of Operatives

Of necessity, many of the Papers dealt with accident prevention in very general terms, but it was interesting to find at least one speaker advocating the training of operatives as the most important element in the campaign against occupational dangers. "Safety can only be guaranteed," said Mr. Ganser (France) "in spite of the precautions taken in the work, if the operator is filled with the sense of need for security." Even so, I think that one would hesitate to "guarantee" safety under any conditions, and indeed we had the opinion of another French speaker who described some accidents to persons working on scaffolding and ladders. He had come to the conclusion that each of the accidents investigated had been caused by the sudden disappearance of the notion of safety "which must remain present in the mind of the worker, but which habit or an interesting task may obliterate." If this is true, and I think it is, then I suggest that Mr. Ganser's statement should be reversed to read: "In spite of the operator's sense of need for security, precautions (by the employer) must still be applied to the work." It is precisely those lapses in the operator's good sense which the physical safeguards are provided to guard against.

Mr. Robert, head of the Safety and Work

Hygiene department of the International Labour Office recalled that the I.L.O. includes representatives of the workers, employers and governments at international level, and went on to describe the current work of the International Labour Conference in many fields of accident prevention. The speaker was concerned that in too many countries—particularly Africa, Asia, Latin America and even Europe, which are entering a phase of intense economic development, the accident frequency rate has shown an astonishing increase. He regretted that the trades unions only very rarely have a well defined policy in the field of prevention, and he welcomes the efforts of the few organisations which realise the need for the instruction of their members. Significantly, he adds: "The workers' attitude is more influenced by the example of their work-mates than by the most sensible advice. One must therefore appeal to the esprit-de-corps of the workers." If only he could tell us where to begin!

#### Psychological Aspects

The psychological aspect of accident prevention is an exceedingly important one, and an account of man's relationship with his industrial environment was given by Professor Bergami of the University of Naples. He described how mankind had lived for centuries in a natural environment, when he was able to overcome everyday difficulties. Now he has created new conditions and new risks, which lead him to demand of his neuro-muscular system an adjustment which is becoming more and more difficult. He asked: "does not this effort on the part of the human machine exceed its possibilities?" Professor Bergami proceeded to examine this question by considering man's ability to receive outside information, and to decide and act on this information. Certain factors, such as fatigue, temperature, movement, colours and shapes, lighting and the disposition of objects in space were considered. Professor Bergami concluded with a warning against drawing generalisations from the research that has been done, but emphasised the value of the work of the psychologists in detecting crises in the subconscious minds of the workers—crises which play a definite part in accidents.

I may be a trifle difficult to convince in such matters, but watching a man on a building site near my office today making a near-suicidal attempt to carry three scaffold tubes up a ladder, I couldn't help wondering which particular type of crisis he was suffering from at that moment, to make such an effort (and an abortive one) seem worthwhile!

Turning to more practical matters, there was a reference to the study of slewing cranes made by Mr. Short of H.M. Factory Inspectorate. Mr. H. t'Hart (Netherlands)

suggested the launching of an annual international study on the frequency and causes of these accidents. Mr. Nickles (France) referred to the measures adopted in France concerning these cranes, and stated that certain standards of safety had been made compulsory by law. The French Ministry of Labour is now organising the training of crane operators.

A speaker pointed out that the vertical and horizontal conveyance of materials is now done mostly by machines, the most important of which are cranes. He stressed the importance of the devices designed to maintain stability. Another speaker suggested that standards establishing the useful-performance load as a percentage of the overturning load should be unified at international level. He went on to mention the problem of free-fall, and was pleased that the contractors are following expert advice. A report was also submitted dealing with safety on sites where automation methods were being used. The need for warning signals was stressed, but it was considered that acoustic signals were not enough.

#### Machinery Guards

An interesting point was raised in the course of a session dealing with machinery guards. Mr. Scarsini (Italy) made the observation that since the development of the Common Market, manufacturers have been led to buy machines abroad which do not comply with the standards of safety required in their own countries. He suggested that the I.L.O. should consider the unification of national regulations for the guarding of machinery. At another committee a delegate had expressed the view that no machine should be delivered without safety devices; this being a principle which should be applied universally.

I think that this would be a difficult principle to establish. In our country the employer has the primary duty of safeguarding his workers, and the effect of placing a share of the responsibility for safety upon the manufacturers would, I feel weaken this well-founded policy. (There are already prohibitions under the Factories Acts and the Building Regulations regarding the sale or hiring of machines but these do not absolve employers from their duty to fence dangerous parts.)

Odd Spot No. 1 Mr. Kervran (France), who has carried out many experiments as a factory inspector, has discovered that welders using acetylene can suffer from carbon-monoxide poisoning without having ever inhaled carbon-monoxide. Systematic research has shown that carbon-monoxide is formed in the body as the result of the molecular break-up of the nitrogen in the air when in contact with an incandescent metal acting as a catalyst.

Odd Spot No. 2. Mr. Bertrand (France) recalled that an international commission which met in Paris last year proved that alcoholism was to blame for 15 per cent. of all occupational accidents.

It would be interesting to know whether this fact influenced the decision to hold the Fourth World Conference in London

## COLOURING IN FACTORIES

### Factory Building Studies No. 8

COLOUR in industry is not merely a form of decoration or even a "welfare" measure. It has certain functions to perform and the factors that are important for practical success have been established.

The latest report in the Factory Building Studies series\*, based on several years' work on the use of colour in various types of building, is a concise guide for factory managements and their architects or colour consultants. It has two sections, both containing coloured illustrations. The first

\*Factory Building Studies No. 8, "Colouring in Factories," published for D.S.I.R. by H.M.S.O., price 7s. 6d. (\$1.35 U.S.A.), by post 7s. 10d.

section describes the basic properties and effects of colours, linking them with certain facts about human eye-sight, to form general principles for colour design.

The second section explains the practical application of these principles, starting with a description of British Standard 2660 ("Colours for building and decorative paints"). It indicates stage by stage the way in which colours for each element of the interior become disciplined so that a picture is formed of the characteristics essential to good factory colouring. The examples are mainly for daylight but there are notes on the special problems arising where lighting is partly or wholly artificial.

As lighting and colouring are inter-related, this Study is complementary to the earlier Study (No. 2 in the series) on "The Lighting of Factories."

### BUILDING CONSORTIUM FOR WEST SUSSEX?

West Sussex county education authority is considering the establishment of a consortium to achieve economy in construction of buildings.

The County Architect is proceeding with his study of the technical considerations involved and is investigating the nature of the construction which might be adopted as the basis for the consortium. At the same time consideration is being given as to the extent to which other local authorities might be interested as parties to the consortium.

## PRECAST FRAME AND WALL UNITS IN OFFICE AND LABORATORY BLOCK

**A**N office and laboratory building recently built at Horsforth, near Leeds, for Sandoz Products, Ltd., completes a £2½ million development programme by the company, which was started in 1950. The company's headquarters on the 31½-acre site now occupies a floor area of 360,000 sq. ft.

The new building is L-shaped on plan with the administrative offices in one wing and the laboratories in the other. It has a precast concrete frame and precast concrete wall units up to eill height on all four floors above ground level.

For the foundation of the building 412 reinforced concrete piles at an average length of 35ft. were necessary. The ground floor slab and retaining walls were made of in situ reinforced concrete and the precast upper floor units were prestressed.

### Basic Axial Unit

A basic axial unit of 5ft. 8in. was chosen for the design. The structural columns are spaced at two axial units, i.e. 11ft. 4in. centres in the administrative wing, forming bays of 16ft. depth each side of the corridor, with a width of 11ft. between the centres of the columns.

Three axial units of 5ft. 8in., 17ft. centres, are between the structural columns in the laboratory wing, forming bays of 28ft. depth on the north side. On the south side the 28ft. depth accommodates a corridor and the offices.

The floor slabs of the administration wing are designed for a superimposed load of 60lb./sq.ft. and those in the laboratories for 120lb./sq.ft. One hour fire resistance was specified for the offices and two hours for the laboratories.

Crossland Hill stone is used as facing material on the building, together with green terrazzo slabs for the administrative wing and Tinos marble for the front facade. Double glazed teak windows are installed throughout with venetian blinds between the panes. The windows are centrally hinged and swivel 180 degrees allowing them to be cleaned inside and outside without special arrangement. Long vertical windows in the staircases are made of galvanised metal.

All offices and corridors are covered with green rubber tiles. Laboratory floors are tiled with ceramic tiles and the toilets with terrazzo. Storerooms, locker rooms and ground floor rooms in the laboratory wing are covered with black p.v.c. tiles, and staircases, landings and the entrance hall are finished in terrazzo.

Laboratory walls and toilets are tiled 7ft. high with opal coloured tiles, and office walls are smooth plastered and painted. Perforated white asbestos tiles are used for

the suspended ceilings throughout the building.

Steel panel radiators provide the background heating to the laboratories, working in conjunction with the ventilation plant. Low temperature panel radiators are installed in the offices for convection heating, and the entrance hall and staircases are heated by concealed fan convectors. The heating of the whole building is fully thermostatically controlled and has a maximum heat load of 1,965,000 B.Th.U./hr.

Air changes of 15-20 per hour were generally specified for the laboratories. Filtered and preheated air is discharged

etc., air compressors, water demineralizing plant, calorifiers and receivers and distribution headers for all services.

A vertical duct of 3ft. width from the ground floor to the top floor allows for uninterrupted distribution of all services pipes and ducts. All horizontal distribution is within the suspended ceilings and the control valves on the branches to the laboratories are accessible from the corridor of each room.

The main electric panel, situated on the ground floor, is a completely enclosed "Superform" type and is fed by a 1,000 KVA transformer, installed outside next to the panel. The incoming supply



The administrative and laboratory building

into the rooms by means of concealed diffusers in the ceiling. The capacity of the ventilation plant was calculated to 3,030,000 cu.ft./hr with a maximum heat capacity of 2,250,000 B.Th.U./hr.

The waste air is extracted mainly through the dyebath, fume cupboards and at all points where fumes and steam are created. Elsewhere special extract grilles are fitted. The extracted air is collected in four vertical shafts built in concrete blocks and plastered. All metal shafts are polythene coated internally and special provision has been made for extracting toxic and highly corrosive fumes.

All auxiliary equipment for the laboratories is centralised in the ground floor machine room. This includes circulation pumps for heating, hot water, condensate,

from the substation to the transformer is rated at 11,000 volts.

From the main panel to the "Superform" distribution boards, placed in vertical main duct, p.v.c. insulated cables are used. For the lighting installation, fluorescent fittings are generally fitted, with the exception of the executive offices, board room and conference room. In the entrance hall to the administrative wing 84 fluorescent and 75 tungsten fittings are fixed, being concealed in the ceiling to give a completely diffused light.

The building was designed by Chippindale and Edmondson, Empire House, Piccadilly, Bradford 1. The general contractors were Wm. Irwin and Co., Ltd., 2 Burley Road, Leeds 3.

## BRIGHTON EXHIBITION OF MUNICIPAL ENGINEERING

**A**LARGE exhibition of municipal engineering works, arranged by the Institution of Municipal Engineers, was held last week at Brighton in connection with the annual conference of the Institution.

Opening the exhibition, Mr. J. H. Melville Richards, M.I.Mun.E., M.I.C.E., the new president of the Institution, stated that it had been designed to bring together examples of important engineering works executed under the direction of municipal engineers.

"From what we have been able to

collect and display," he said, "it will be seen that local authority engineers in towns, both large and small, are responsible for the design and construction of many important projects in the fields of civil engineering, town centre reconstruction, planning, landscaping, architecture and structural works concerned with docks, harbours, coast erosion problems and housing. At a very conservative estimate local authority engineers have been responsible for over 50 per cent. of municipal or state-aided houses built since 1920."

Features of the models and photographs

shown included a working model of a twin series septic tank and filter with effluent to surface irrigation, displayed by the Ministry of Works; models of proposed redevelopment of the central areas of such towns as Croydon, Margate, Bradford, Southampton, Southend, Durham and Birkenhead; and road improvement schemes of which examples are the L.C.C.'s Hyde Park Corner and Marble Arch project, new motorway in Worcestershire, and engineering works being carried out to the Great North Road by West Riding C.C.

A feature of the exhibition was the inclusion of models and photographs of municipal engineering works from Amsterdam, Maastricht, The Hague and Rotterdam.



## REINFORCED CONCRETE ASSOCIATION

### Members of Council

THE annual general meeting of the Reinforced Concrete Association took place recently at the Institution of Structural Engineers. The meeting formally adopted the annual report of the Council for 1960, together with its income and expenditure account and balance sheet to December 31, 1960.

The scrutineers reported the result of the ballot for election of members of Council in place of those retiring by rotation, the following being elected:

**President**—A. P. Mason, B.Sc., M.I.C.E., M.I.Struct.E. (technical director, British Reinforced Concrete Engineering Co., Ltd.).

**Vice-president**—D. P. Harris (managing director, Terresearch, Ltd.).

**Professional Members**—J. Singleton-Green, M.Sc., M.I.C.E., M.I.Struct.E., A.M.I.Mech.E. (concrete consultant); F. S. Snow, C.B.E., M.I.C.E., M.I.Mech.E., P.P.I.Struct.E. (consulting engineer); and P. F. Stott, M.A., A.M.I.C.E. (partner, G. Maunsell and Partners, consulting engineers).

**Industrial Members**—H. F. Rosevear, M.I.Struct.E. (chief design engineer, Sir Robert McAlpine and Sons, Ltd.); L. G. Wills, B.Sc., A.M.I.C.E. (joint managing director, Holst and Co., Ltd.).

**Associates**—F. C. Eales, M.I.Struct.E. (director, A. Monk and Co., Ltd.); W. J. Larnach, M.Sc., A.M.I.C.E., A.M.I.Struct.E. (senior lecturer in civil engineering, University of Bristol); J. K. Nesbit, A.M.I.Struct.E. (chief designer, W. and C. French, Ltd.); and K. Newman, B.Sc.(Eng.), A.M.I.C.E. (lecturer in concrete structures and technology, Imperial College).

Two other professional members, seven industrial members and three associates, not due to retire, continue in office.

Mr. A. P. Mason proposed a vote of thanks to Mr. Kirby Laing for the valuable work he had done for the Association during his year of presidency.

### Concrete in Scandinavia

After the annual general meeting an illustrated account was given of the recent visit of a party to Scandinavia under the auspices of the Joint Committee on Structural Concrete (comprising the Cement and Concrete Association, Prestressed Concrete Development Group and the Reinforced Concrete Association). This was given by the secretary of the Joint Committee, Mr. Philip Gooding, member of Council of the Reinforced Concrete Association.

In Denmark numerous examples had been seen of the use of reinforced concrete storey-height cladding slabs with excellent exposed aggregate surfaces.

In Stockholm items of special interest were the new City Centre, with its fine buildings, roads and pedestrian precincts; the Farsta suburb with its pedestrian shopping centre and underground surface roads, the use of standardised formwork producing concrete straight from the forms which requires no plastering; and an outstanding college where all the interior concrete was cast in situ, against board formwork.

In Oslo a number of important buildings in Naturbetong were seen, which clearly established that this method of construction was now perfected and offered considerable scope to designers.

### MUNICIPALS' AMALGAMATION

The special general meeting convened in Brighton last week by the Institution of Municipal Engineers decided that amalgamation with the Institution of Civil Engineers should not proceed unless a majority of 66½ was received in favour. Only a slight majority of about 6 per cent. voted in favour at the meeting.

To decide the issue a series of adjourned special meetings will now be conducted by Mr. A. S. Hamilton, immediate past-president, at centres selected by district executive committees. At these meetings only a poll will be taken.

## REPORT FROM THE EXHIBITION

CRYSTAL PALACE, Tuesday.

BLESSED with fine weather (at the time of writing) and no major teething troubles, the first International Construction Equipment Exhibition is now in full swing.

Attendance to date has been rather disappointing but the number of overseas visitors has been an encouraging feature. In fact, it has been said that there have been as many visitors from abroad as from the U.K. Perhaps the home contractors are all too busy on the sites making the most of the summer weather.

The Exhibitors' Advisory Committee called a meeting of exhibitors yesterday with the object of "trying to improve this and subsequent exhibitions by constructive criticism." A number of minor teething troubles reported by exhibitors were referred to the Committee for action. The main criticisms concerned the standard of catering, publicity and union restrictions regarding use of labour on stand work. There have been no labour troubles reported at this Exhibition but with memories of other exhibitions in mind the exhibitors seem determined to press for the abolition of the closed shop imposed by the unions and the Committee was instructed to take the matter up with the organisers.

Lack of coverage of the opening of the Exhibition by the National Press, radio and television was deplored and it was felt that more should have been done, and earlier, to publicise the Exhibition abroad.

There was some lengthy discussion regarding frequency and duration of the Exhibition and it was decided to obtain the views of all the exhibitors to pass on to the organisers.

Obviously, with a first exhibition of this kind there must be teething troubles and some criticisms but there is little doubt that exhibitors are well pleased with the show and visitors much impressed. The International Construction Equipment Exhibition has come to stay but it needs more support from home contractors.

### £1.3M. SCHEME APPROVED BY L.C.C.

The L.C.C. have given their approval to the scheme prepared by Rendel, Palmer and Tritton, 125 Victoria Street, London, S.W.1, for the realignment of the southern approach to Waterloo Bridge. The scheme is estimated to cost £1,328,900, of which £473,000 is for property and property works and £855,900 for road works.

(Concluded from page 1533)

been altered to accommodate packs 24in. wide.

The speed with which packs can be handled from the lorry to the building by crane with these lifting devices depends on several factors, but typical rates are 100 packs per hour when using the four-pack model to place loads directly at different points on a building, and 170 packs per hour using the eight-pack model to place loads on a landing stage from which they have to be distributed to points up to 100ft. distant with pack barrows. In both examples one man would be required on the lorry to engage the load; in the former, only one man would be required on the building to receive the load, but in the latter an additional five men would be required to distribute the packs whilst keeping up with the crane.

Information regarding the suppliers of precast concrete blocks in packs as well as of the equipment for making and handling the packs can be obtained from your nearest Building Centre.

### Acknowledgement

The work in developing methods of packaging precast concrete blocks and equipment for handling the packs forms part of the programme of research of the Building Research Board and this article appears by permission of the Director of Building Research.

(Crown Copyright Reserved)

## Late Construction News

**VAUXHALL MOTORS FACTORY.**—As anticipated in this column on June 8, tenders are now being invited from selected contractors for the erection of a new mechanical units factory and ancillary works at Hooton Park, near Ellesmere Port, Ches., for Vauxhall Motors, Ltd. The architects are Howard Fairbairn and Partners, 81 Piccadilly, London, W.1, and the quantity surveyors are G. D. Walford and Partners, 7 St. James's Street, London, S.W.1. The structural consultants are G. A. Dodd and Partners, 17 Railway Approach, London, S.E.1.

**GALASHIELS SEWAGE WORKS.**—Galashiels B.C. have accepted the £129,473 tender of Whatlings, Ltd., Glasgow, for civil engineering work in connection with the reconstruction of the sewage disposal works at Galafoot. The mechanical plant will be supplied by William E. Farrer, Ltd., and Ames Crosta Mills and Co., Ltd., at a cost of £45,530.

**NOVA SCOTIA CONTRACT.**—A £1½ million shopping centre is to be built at Halifax, Nova Scotia, by Anglin-Norcross Maritime, Ltd., the Canadian associates of Holland & Hannen and Cubitts, Ltd.

**LANCASHIRE SCHOOLS.**—Contracts totalling over £800,000 have been placed by the Lancashire County Education Committee for school building as follows: 11- and 12-storey extensions to the I. M. Marsh College of Physical Education—R. Costain and Sons (Liverpool), Ltd., £461,008; Second phase of the Wade Deacon Grammar School for Girls—David Lesley (Contractors), Ltd., 20 Tithebarn Street, Liverpool, 2, £157,258; additions to Fails-worth Secondary School for Boys—G. and J. Seddon, Ltd., Little Hulton, Walkeden, £189,647.

**NIGERIAN ROAD CONTRACT.**—A contract valued at over £200,000 has been awarded to Taylor Woodrow (Nigeria), Ltd., for the construction of a 10-mile long road, including five bridges, between Ayo-Iwoye and Ijesha, for the Government of the Western Region of Nigeria.

**SOLIHULL CAR FACTORY.**—Tenders are due in next month for extensions to the car factory of The Rover Co., Ltd., at North Factory Site, Meteor Works, Lode Lane, Solihull. The architects are Hasker and Hall, 13 Welbeck Street, London, W.1, and the quantity surveyors are Crosher and James, 329 High Holborn, London, W.C.1. The consulting engineers are Thomas Bedford and Partners, 41 New Bond Street, London, W.1.

**L.C.C. SCHOOL BUILDING.**—At their meeting yesterday the L.C.C. Education Committee were recommended to accept the following tenders: Rebuilding the Barrett Street Technical College, Oxford Street, W.1—Taylor Woodrow Construction, Ltd., Southall, £508,797; adaptation and extension of Daneford School, Bethnal Green—J. M. Hill and Sons, Ltd., Wembley, £435,320; extension and improvement of Shooter's Hill School, Woolwich—Henry Kent (Builders), Ltd., Lewisham, £50,875; extensions and improvements at Archway School, Islington—Patman and Fotheringham, Ltd., Islington, £235,711; rebuilding Elfrida Rathbone Secondary School, Camberwell—T. R. Roberts (Builders), Ltd., Lewisham, £74,419.

**POWER STATION CONTRACT.**—Mitchell Construction Co., Ltd., Peterborough, have been awarded a contract worth about £1,200,000 for the construction of the superstructure of the Drakelow C Power Station at Burton-on-Trent.

**GLASGOW DWELLINGS.**—The direct labour department of Glasgow City Council are to erect 174 three-apartment dwellings at Gartloch Road, Garthamlock, at a cost of about £400,000.

**CUMBERLAND ROAD DIVERSION.**—Cumberland C.C. have accepted the tender, at £59,328, of the Demolition and Construction Co., Ltd., St. James's Square, London, S.W.1, for the construction of a road and bridge diversion at Lanercost on the Lanercost-Askerton class III road. Work will commence at the end of the month.



## 1,100 TONS OF STEELWORK SUPPLIED AND ERECTED IN 12 WEEKS

**S**ANDERS AND FORSTER, LTD., the structural steelwork company of the Chamberlain Group of Companies, have recently supplied, fabricated and erected the complete structural steelwork frame for the new factory of Bowater Packaging, Ltd., at Gillingham, Kent.

Designed by Farmer and Dark, F.F.R.I.B.A., and constructed by John Laing Construction, Ltd., the main contractors, the buildings enclose some 7½ acres on a site approximately 18 acres and provide 386,000 sq. ft. of factory floor. Concentrated here under one roof will be a wide range of consumer packaging production.

The 1,100 tons of structural steelwork was designed by Sanders and Foster, Ltd., in close collaboration with the architects and was fabricated at the company's Barking and Stratford works, while the company's own erection teams undertook the erection.

The main production and finished goods area, which forms the largest part of the

factory, is of north-light construction enclosing some 25,000 sq. ft.

### Specially Designed Girders

To reduce the number of stanchions to a practical minimum in the main production areas, specially designed "Warren" girders of novel construction span on a north-south line supporting vertical latticed girders at right angles to carry the north-light roof.

To speed erection time, the latticed girders, varying in span from 74ft. to 80ft., were all-welded construction and were assembled on the site in two sections by welding together the bottom booms and securing the vertical end plates with high strength bolts.

Among the interesting features of the design of these latticed girders was the use of large unequal angle sections inclined to a similar angle as the south roof slope which dispensed with the need of a separate top purlin, while a unique arrangement of the top and bottom booms and the internal bracing members eliminated the need for gusset plates. To minimise dust collection and to obstruct the natural lighting as little

as possible, the internal bracing members were placed with the heel of the angle section uppermost.

A further impressive building of portal frame type construction extends some 650ft. along the full length of the eastern boundary.

Sanders and Forster, Ltd., are now in the process of erecting extensive new buildings at their Stratford works as part of their expansion scheme.

With the completion of the new extensions the company will have 100,000 sq. ft. of manufacturing space which should make the works one of the most modern in the country.

The extensions consist of one 50ft. span crane bay designed for 5-ton overhead travelling crane and a 70ft. span crane bay designed for a 10-ton overhead travelling crane. Crane stanchions are universal beams castellated in the case of valley stanchions, and the roof frames are of tied portal construction with a lattice single rafter and rod bottom tie. Purlins consist of a simple bow-string girder comprising a right angle with a rod bottom tie.



Main production and finished goods area

## HEATING SYSTEMS IN MODERN FLATS

### Survey by Building Research Station

**A** COMPREHENSIVE study of heating system in modern flats has been carried out by the Building Research Station, and the results are contained in Research Paper 34\* published in the National Building Studies series.

The main systems studied were central heating, off-peak electric floor warming, and heating by individual solid-fuel gas and electric appliances. The survey covered temperatures and fuel consumptions and capital maintenance and replacement costs and included assessments by tenants of the various systems.

All the flats covered by the survey belonged to local authorities whose normal pre-war method was to provide individual fireplaces for space heating and back boilers or gas appliances for water heating. Since the war, however, with the building of high blocks of flats, local authorities have had to reconsider heating methods. As heights increase cumulative loss of floor

space that is occupied by individual flues becomes considerable and other associated problems such as distribution and storage of fuel and the disposal of ash are also accentuated. Atmospheric pollution and the development of smokeless zones are other considerations.

The Building Research Station started this programme of research in 1956 as an extension of its study of domestic heating in houses. The present survey was carried out in three main parts: 1. A survey of temperature and fuel consumption in eight estates for various methods of heating, two or three estates being examined each heating season; 2. A study of the capital costs involved with different systems; and 3. A study of the operation of heating systems in flats from the tenants' point of view.

The study itself has shown many ways in which individual central heating systems could be made more satisfactory and detailed suggestions are given in the last section. One of the most striking results has been the differences in the attitude of tenants to landlord controlled and tenant controlled systems.

## INTERNATIONAL CONFERENCE ON TIMBER ENGINEERING

At Southampton University (September 18-23) engineers and research workers from various parts of the world, who are interested in the structural use of timber, are meeting to discuss one aspect of their subject, timber roof construction.

The first three days of this conference will be taken up by discussion of a number of Papers, dealing with: General problems of timber construction; structural timber joints; some structures of particular interest; testing timber structures; timber shell structures; some constructional problems; and economics and comparisons.

This part of the conference will be opened by the Head of the Department of Civil Engineering at Southampton University, Professor P. B. Morice, and Mr. P. O. Reece will give the final review.

Accommodation will be available in the form of single bed-sitting rooms in one of the University Halls of Residence. The fee for the conference is £21, which includes accommodation, meals, visits, copies of the Papers and the final bound volume of the proceedings.

Anyone who wishes to attend the conference should get in touch with the conference secretary, Dr. H. G. Allen, at the Department of Civil Engineering, Southampton University.

\* "A Study of Space and Water Heating in Local Authority Flats, 1956-59." National Building Studies Research Paper No. 34. Published for D.S.I.R. by H.M.S.O., price 6s. (\$1.08 U.S.A.), by post 6s. 8d.

## Men and Movements

THE new national president of the Federation of Master Builders is **Mr. R. W. Ricketts**, J.P., M.R.S.H. He succeeds the late **Sir Harry Selley**. Mr. Ricketts is the managing director of W. T. Ricketts and Sons, Ltd. He is a founder member of the Federation, and has played a prominent part in its expansion to the present level of membership. He was president of the London region in 1946 and a national vice-president since 1947. His service to the Federation extends over 20 years.



R. W. RICKETTS

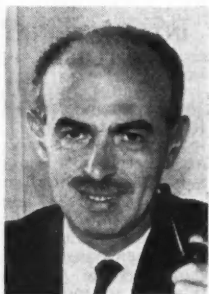
**Mr. Owen A. Lauritzen**, who since 1958 has been timber development director of the British Columbia Lumber Manufacturers Association in the United Kingdom, has been appointed promotion manager, with responsibility for development work in the home and overseas markets. He will take up his new duties at the BCLMA's head office in Vancouver at the beginning of July. **Mr. R. C. Bennet**, who joined the Association's United Kingdom organisation at the beginning of this year has assumed the responsibilities of timber development director in Britain.

**Mr. William Boyd Shannon**, M.I.C.E., M.I.Mech.E., M.I.E.E., Fellow A.S.M.E., has retired from his position as assistant chief project engineer at the Central Electricity Generating Board's southern project group.

Following the resignation of **Mr. H. H. Holliday**, **Mr. A. W. Passmore** has been appointed a director of Holliday and Greenwood, Ltd.

**General Sir Brian Robertson** has accepted an invitation to join the board of the Dunlop Rubber Co., Ltd. Sir Brian was for a number of years managing director of the Dunlop subsidiary in South Africa, before being recalled to the Army in 1940.

**Mr. J. B. Parrett**, A.A.C.C.A., secretary and financial controller to Richard Costain, Ltd., since 1959, has been appointed to the board of the company. He joined the firm in 1937, and was secretary and financial controller of Costain (West Africa), Ltd., from 1951 to 1954, when he became assistant secretary to the parent company. Mr. Parrett was appointed secretary in 1957. **Mr. C. A. Bell**, F.C.I.S., has been appointed secretary in his place.



J. B. PARRETT

The Royal Society for the Prevention of Accidents, in association with the London Master Builders Association, have appointed **Mr. J. H. Moss**, O.B.E., as the safety advisory officer in connection with the L.M.B.A. Safety Service which is about to be set up.

Dewhurst and Partner, Ltd., have announced the appointment of **Mr. R. A. Nisbet**, A.M.I.E.E., as regional manager (south). Mr. Nisbet has been with the company for 17 years and was formerly group controller for the southern region.

**Sir Noel Hall**, M.A., and **Mr. L. W. Cole**, B.Com., have been elected directors of Babcock and Wilcox, Ltd. Sir Noel was recently appointed Principal of Brasenose College, Oxford, having been Principal of the Administrative Staff College, Henley, since 1946. He is a director of Fisons, Ltd. Mr. Cole, who has been in the service of the company for over 30 years, became secretary in 1952 and, in 1958, was made responsible for financial control within the group. Mr. Cole will retain the position of secretary until the end of this year.

Foamed Slag Producers Federation, Ltd., have appointed **Mr. L. W. E. Rowbotham** as technical director. Mr. Rowbotham will be responsible for technical research and development into the application of foamed slag for lightweight concrete, on behalf of the member companies of the Federation.

The new president of The Institute of Sewage Purification is **Mr. Martin Lovett**, O.B.E., B.Sc., F.R.I.C., Hon.F.I.P.H.E., chief inspector to the Yorkshire Ouse River Board. Mr. Lovett became a member of the Institute in 1935 and a Fellow in 1946. He has been assistant secretary or secretary to the Institute's membership and examination committee since 1938, and the Institute's Federal Contact Member of the Water Pollution Control Federation since 1949. He was chairman of the north eastern branch of the Institute in 1946. Mr. Lovett is a Fellow of the Royal Institute of Chemistry and a member of several other scientific societies. He is also a member of the Ministry of Housing and Local Government technical committee on stormwater, and served on the Ministry's methods of analysis committee. The retiring president, **Mr. M. Arnold Kershaw**, F.C.S., F.I.P.H.E., has, during his year of office, made extended visits to all the branches of the Institute in the British Isles, and visited a number of sewage works, river board, and trade effluent installations in Western Europe. In all, he has travelled nearly 14,000 miles, nearly 3,000 of them abroad.



M. LOVETT

**Mr. W. Rowland Evans**, divisional manager of the Unistrut division of Sankey-Sheldon, Ltd., flew to Chicago recently to attend a Unistrut convention. Mr. Evans will spend 10 days with the Unistrut Corporation and 10 days with the Products Corporation. He is primarily visiting the U.S.A. to discuss and bring back to the United Kingdom new ideas, new methods and any new products.

Mercantile Credit Co., Ltd., have announced the appointment of **Mr. John E. Adye** as local director for the north east of England, in succession to **Mr. P. C. Stead**, who has resigned for personal reasons. **Mr. B. J. Lodge**, previously a representative at Cardiff, has been appointed branch manager of the Swansea branch.

Adamant and Western Engineering, Ltd., have announced that **Mr. F. V. Waller**, managing director of the group, has been appointed deputy chairman.

After 50 years' service, **Mr. O. C. Kerrison** has retired from the chairmanship of the Paterson Engineering Co., Ltd., and from the directorate of the associated companies in the group. He is succeeded as chairman by **Mr. John V. Sheffield**.

Sandford Fawcett and Partners, the London firm of consulting engineers, are taking into partnership **Mr. J. Hutchinson**, M.I.C.E., M.I.P.H.E., and **Mr. R. D. Sheffield**, M.I.C.E., M.I.W.E.

**Mr. R. Padovan**, A.R.I.B.A., has been appointed staff architect to Middlesex Prefabricated Buildings, Ltd., one of the JEL group of companies. He will be responsible for the design and development of prefabricated building systems, particularly multi-storey construction and industrial estates.



R. PADOVAN

After 45 years' service with the company, **Mr. R. J. Palmer**, local director, and until recently general manager of the excavator division of Newton Chambers and Co., Ltd., has retired. Mr. Palmer joined the company in 1916, and in 1930 became London manager for the ironworks branch of the company. After the war he was responsible for developing the company's manufacture of NCK excavators, and was made a director of NCK Rapier, Ltd., the sales organisation.

The British Uralite Group have announced the appointment of **Mr. Denis Fraymouth** as sales manager to their subsidiary, The Nuralite Co., Ltd.

**Professor Walter Gropius**, Emeritus Professor of Architecture at Harvard University, has been awarded the gold Albert medal of the Royal Society of Arts for 1961, for his contributions to architectural and industrial design.

**Mr. James Scott** has been elected to the board of Thermotank, Ltd., a member of the Hall-Thermotank Group.

**Mr. L. Klein** has been appointed sales director of Air Pumps, Ltd.

Among passengers recently embarking at Southampton for Canada was **Mr. F. Taylor**, chairman of Taylor Woodrow, Ltd. **Major L. A. Leech**, managing director of Millars' Machinery Co., Ltd., recently returned from New York.

**Mr. Brian M. Humphreys** has been appointed to the sales staff of S. Wernick and Sons, Ltd. Mr. Humphreys, who has for some time been on Wernicks production side, will be responsible for East Anglia.



B. M. HUMPHREYS

**Mr. J. Westacott**, M.B.E., M.I.C.E., F.I.O.B., a director of John Mowlem and Co., Ltd., has recently returned from a 3,000 miles tour of Kenya, Uganda and Tanganyika. During his tour—two-thirds of which was made by air and one-third by road—he visited the sites of all the major contracts the company is carrying out, including four stretches where new roads are to be built at a cost of over £700,000.

A new appointment to the board of Fairey Air Surveys, Ltd., is that of **Mr. R. J. Cooper**, group personnel and insurance manager of the holding company, The Fairey Co., Ltd., which position he retains.

## ROYAL INSTITUTION OF CHARTERED SURVEYORS

### Work of the Quantity Surveyors Committee\*

**D**URING the session the activities of the Committee have been concentrated upon three main subjects of review, (1) the revision of the constitution of the Committee and the procedure for its election, (2) the revision of the examination structure and syllabus for the quantity surveying section in furtherance of the Council's review of educational policy and (3) the review of the scale of professional charges for quantity surveying services—Scale 36. These have taken place against a background of considerable activity over the whole field of the surveyor's profession and the Institution's relations with the building industry.

#### Practice

In addition to the usual flow of inquiries by members and other bodies for advice on contract matters, the Sub-Committee have dealt initially with many matters of concern to quantity surveyors.

On the subject of technical information, the Committee received in May, 1960, a report on the needs of quantity surveyors in this field. The Committee's views have been made known to the technical information and research executive panel of the Internal Services Committee which is now endeavouring to co-ordinate the needs of all chartered surveyors and with which the Committee and the Cost Research Panel are maintaining the closest possible liaison.

On holidays with pay and the reimbursement to contractors of increases in contributions, advice has been made available to members in the form of the opinion of leading Counsel.

On Daywork Agreements, the Committee await with interest the consideration of the National Schedules of Daywork Charges and the Agreements on Electrical and on Heating, Ventilating and Domestic Engineering work, by the Restrictive Practices Court. Representatives of the

\*Extracts from the Annual Report of the Committee, presented at the Annual General Meeting of the Institution, held in London recently.

Committee received those of the Federation of Associations of Specialists and Sub-Contractors for an informal discussion on daywork matters.

The study of the uses of computers and tabulators for quantity surveying practice has continued and it is intended to hold the General Meeting of Quantity Surveyors in October, 1961, on this subject.

At the annual conference at the University of Leicester in July, 1961, the subject arranged for the Quantity Surveyors Sectional Meeting is "The Modernisation of Techniques in Quantity Surveyors' Offices: New Approaches to the Preparation of Bills of Quantities and Final Accounts."

Consideration has been given to methods of measurement, both at home and overseas. The progress of the editing of the revised (5th) edition of the Standard Method of Measurement has been watched closely. The date of publication will probably be at the end of 1961. Overseas, the production of Methods of Measurement by the Branches for Hong Kong and China, Nigeria and Singapore was assisted by the Council on the advice of the Committee.

The revised directions on advertisements and other public announcements have been noted and their application to quantity surveyors is being studied. The introduction of standard notice boards for use by quantity surveyors and building surveyors has been considered and recommendations are being made to the Council that such boards should be approved both for use by individual firms and for inclusion on a professional consultants' board on sites where building work is in progress.

#### Applications for Membership

In 1960, there were 247 applications for election as chartered quantity surveyors from candidates who had passed the qualifying examination. In the quantity surveying section, 3,686 candidate applied to sit for the professional examinations. All these applications, together with 324 applications for transfer to the Fellowship, for enrolment in the class of students, for reinstatement to membership and for opinions as to eligibility for the examina-

tions, were considered by the Practice Sub-Committee.

The attention of the Sub-Committee has been directed mainly to the revision of the scale of professional charges for quantity surveying services—scale No. 36. The revised scale has been published (elsewhere in this issue) with the approval of the Council, with an explanatory memorandum, and will come into operation on July 1, 1961.

The Sub-Committee have also dealt with a number of applications for advice from members and have pointed out to members the need to ensure that they are fully informed on costs of living and working in territories overseas before undertaking work on a stated basis of fees.

Preliminary discussions have taken place with the Ministry of Health on the subject of fees for work for Hospital Boards, and discussions are proceeding with the R.I.B.A. and the Association of Consulting Engineers on the question of consolidated fees for professional services.

#### Education

The main task during the session has been the revised examination structure and syllabus for the quantity surveying section. This major task has involved a detailed study of very many aspects of the work and future trends of the profession.

Concurrently with the review of educational policy, working parties have been considering the question of sandwich courses and their application to the quantity surveying profession, the possible introduction of a Diploma in Technology in relation to quantity surveying, and the subjects and scope of post-qualification diplomas.

The Sub-Committee have advised on the appointment of, and procedures to be adopted by, the examiners in "Quantities" and allied subjects and have dealt with various points of application of the Rules and Examination to candidates overseas.

#### Cost Information

The field of cost information is of increasing importance and a questionnaire on a pilot scheme for a cost information service has been circulated to a random sample of firms in England and Wales. The results are being analysed.

In addition to liaison with the College of Estate Management on the preparation of a correspondence course on cost planning, the Cost Research Panel have maintained and increased the number of their contacts with organisations and individuals both at home and overseas.

## INSTITUTION OF HIGHWAY ENGINEERS' ELECTIONS

**T**HE following elections took place at the Institution of Highway Engineers on June 2, 1961:—

#### Member

F. H. Bate (deputy borough engineer, Smethwick B.C.).

#### Associate Members

J. W. Bradshaw (senior assistant engineer, Swansea B.C.); J. K. Bromley (senior assistant engineer, Chesterfield R.D.C.); W. A. Corral (assistant engineer, Chelmsford B.C.); W. R. Edwards (senior engineering assistant, Montgomeryshire C.C.); G. Hall (engineering assistant, Cwmbran Development Corp.); D. E. Hood (executive engineer, Government of E. Nigeria); B. F. Jordan (post-graduate student, University of Birmingham); P. J. Kinnersley (engineering assistant, Kent C.C.); J. R. Kissack (engineering assistant, Wolverhampton B.C.); P. H. Managhan (engineering assistant, Chelmsford B.C.); G. M. O'Byrne (assistant resident engineer, Herefordshire C.C.); H. J. Palmer (senior engineering assistant, Dar Es Salaam M.C.); A. F. Potter (graduate assistant, Wolverhampton B.C.); R. Radhakrishnan (junior engineer, Madras); K. Shaw (senior assistant engineer, East Riding C.C.); E. H. Smith (assistant roads engineer, Bulawayo City); B. Sposito (assistant engineer, Crawley Development Corp.); D. J. Stanley (deputy chief engineer, Ghana Housing Corp.); T. Thirumalai (junior engineer, Madras); V. H.

Wilcox (engineering assistant, Cwmbran U.D.C.); J. S. Wilson (engineering assistant, Bristol City).

#### Affiliate

W. Salter (materials engineering assistant, Buckinghamshire C.C.).

#### Students

W. R. Glover (engineering learner, West Riding C.C.); J. R. McGraw (civil engineering learner, Westmorland C.C.); M. C. Rowe (engineering assistant, Newport B.C.).

### MATTHEW HALL'S £350,000 CONTRACT

Matthew Hall and Co., Ltd., have been awarded a contract to the value of approximately £350,000 for the whole of the mechanical and electrical services for the new headquarters office now under construction at Walton-on-Thames for Birds Eye Foods, Ltd. The building will be fully air-conditioned by means of a high velocity induction system.

The architects are Sir John Burnet, Tait and Partners, the consulting structural engineers are Bylander, Waddell and Partners, and the main contractors are Higgs and Hill, Ltd.

### £199,762 SLUDGE DISPOSAL CONTRACT

Wandle Valley Joint Sewerage Board propose to accept the £199,762 tender of J. L. Eve Construction Co., Ltd., 17 Hillside, Ridgeway, London, S.W.19, for the construction of a press house, sludge storage tanks, conditioner buildings, sludge pump house and ancillary works. Other tenders were submitted by T. H. Contractors, Ltd., £210,031; William F. Rees, Ltd., £217,806; Speirs, Ltd., £234,989.

Engineer to the board is Mr. W. B. Wignall, B.Sc., A.M.I.C.E., M.I.Mun.E.

### NEW TOWN DRAFT PLAN APPROVED

Northumberland County Council have approved a draft plan for a new town at Cramlington, about eight miles from Newcastle upon Tyne. Over a period of 20 years, the town will be developed to accommodate 40,000 people. There will be 16,000 houses, 15 primary and 12 secondary schools, and 16 public houses.

The consultants concerned with the scheme are Mauchlen, Weightman and Elphick, 12 Saville Row, Newcastle upon Tyne. A Ministry inquiry is expected to be held.



## Trade and Company News

## HIGH SPEED SELF-PROPELLED TRENCHER

## Variable Digging Rate to Suit Conditions

A SELF-PROPELLED trencher which weighs about  $\frac{1}{2}$ -ton yet will dig a 10in. wide trench in good soil to a depth of 4ft. at a speed of about 95ft. an hour, is now being marketed in this country by A. J. Saunders (Tractors), Ltd., Stilton, near Peterborough. Saunders are the sole concessionaires in this country for the makers, A.R.P.S. Corporation, New Holstein, Wisconsin, U.S.A.

The machine, known as the L-12, digs to a maximum depth of 5 $\frac{1}{2}$ ft. and a maximum width of 12in. It is capable of digging 5 $\frac{1}{2}$ ft. deep and 8in. wide or 4ft. deep and 12in. wide. By virtue of the machine's hydraulic control, the speed of digging is infinitely variable between 0 and 1,200ft. hourly to exactly the maximum speed possible in the materials being dug.

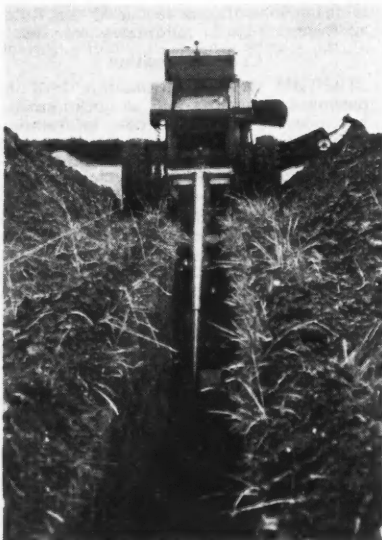
The L-12 is normally mounted on two 4:00-8 rubber tyres at the front and two 6-12 at the rear, but for adverse conditions two further wheels may be added at the rear to provide better traction. The power unit is an air-cooled 12 $\frac{1}{2}$  h.p. heavy-duty Wisconsin AGN engine.

Digging is effected by chain driven cutters mounted on a hydraulic boom at the rear of the vehicle, and the excavated material is deposited by conveyor at the side of the vehicle. A gear-type pump supplies 1,500lb. pressure, and a precision valve raises and

lowers the boom at a touch of the control handle. The cutter chain is V-belt driven direct from the engine. Booms of various lengths may be fitted to give maximum cutting depths of 2 $\frac{1}{2}$ ft., 3 $\frac{1}{2}$ ft., 4 $\frac{1}{2}$ ft. and 5 $\frac{1}{2}$ ft. Tough chisel cutters are available for



The A.R.P.S. L-12 trencher



View showing trenching boom

hard ground, and hardened knock-out bits are pinned to the bracket sockets to prevent loss while digging. These cutters are furnished in widths of 4in., 6in., 8in., 10in. and 12in., and are interchangeable with slicer cutters which are used for the normal soft soils.

The heavy-duty rubber-belted conveyors deposit dirt on either side of the trench, and may be changed from one side to the other in about a minute. Straight line trenching is positive, since there is no side thrust as the dirt is dispersed. An adjustable deflector controls the distance dirt is deposited from the edge of the trench.

Key controls on each side of the machine allow the use of full engine power by adjustment of the digging speed to the conditions. A safety direction lever controls movement forward and reverse speeds instantly, no gear shifting being necessary, and a front wheel lock gives positive regulation when digging straight or curved trenches. If the boom is raised to clear obstruction, a depth marker re-establishes the desired digging depth.

With the boom raised the machine will move at a speed of 2 $\frac{1}{2}$  m.p.h. in forward or reverse and may be controlled up a ramp for transporting by truck or trailer. The cost of the L-12 in the U.K. is £980.

## INTERNATIONAL HARVESTER FORGE AHEAD

SPEAKING at a dinner given recently to members of the Technical Press by the International Harvester Company of Great Britain Ltd., Mr. H. D. Frymire, the Sales Director, said the company were currently running 35 per cent. ahead of last year in total sales of construction equipment. Their total business in the U.K. last year was a record at £27 million plus, of which £8 million was in respect of construction equipment. Of this, £6 million of equipment went overseas and £2 million to the home market.

Mr. Frymire said they anticipated a substantial increase in sales each year for several years to come due to their expanding line of construction equipment in this country. They were building 50-h.p. and

60-h.p. class tractors at the rate of 3,600 per year and were doing everything possible to expand production facilities. Two years ago they added the LTD-20 124-h.p. crawler tractor, equipped with a Rolls-Royce engine, to their line of production and the 1,000th model was being presented at the International Construction Equipment Exhibition to representatives of the Finnish Embassy for subsequent delivery in Finland.

Building Research Station Digest 10 (second series)—Lifting Equipment for Cranes—has been published by H.M.S.O., price 4d.

## RIGID P.V.C. PRESSURE PIPE ON MARKET

THE first product to be manufactured by the recently formed Allied Structural Plastics, Ltd., is medium impact rigid p.v.c. pressure pipe, which is being marketed under the trade name Aspect. It is made in three classes, suitable for working heads of 200, 300 and 400ft., and with a wide range of fittings.

Installed costs are said to be from 17s. 6d. to 25s. 6d. for 3in. main, suitable for a working head of 200ft. The pipe is produced in standard 20ft. lengths, the joints being made with a special solvent welding cement which is applied by brush. The joint develops adequate strength in about two minutes and can be pressure tested in 12 to 24 hours.

Normal methods can be used for laying, but it is frequently possible to make the joints and carry out pressure testing above ground, as the pipe is flexible and light enough to be lowered into trenches in long lengths of 50yd. or more without damage.

Aspect pipes are being distributed by the Universal Asbestos Manufacturing Co., Ltd., Tolpits, Watford, Herts.

## POWELL DUFFRYN ANNOUNCE NEW RAIL VEHICLE

Powell Duffryn Engineering Co., Ltd., announce a new 40-ton gross laden weight, four wheeled rail vehicle, having a payload of 25-tons. 28 of the vehicles are to be used by Shell-Mex and B.P. Ltd., for the carriage of liquid bitumen.

The vehicle comprises a frame manufactured from rolled steel joists with pressed cross members, lengthened to permit the sinking of the tank into the well of the frame, but retaining the standard 15ft. wheel centres.

The tank barrel is of conventional design, lagged, with flame tubes and heating coils, but secured to the frame by a new design continuous mounting which will give good rigidity, reduction in barrel stress, and better distribution of buffing shocks.

## QUALITY OF REDWOOD

## E.J.M.A. Still Seeking Improvement

The English Joinery Manufacturers Association are continuing their efforts to persuade Swedish and Finnish timber shippers to improve the kilning and grading of redwood sent to this country. At the recent meetings in Rome of the European Joinery Federation and of the Technical Committee of the European Confederation of Woodworking Industries, both bodies agreed to support the action of the English Association.

## MASSEY-FERGUSON U.K. SALES UP 27 PER CENT.

Massey-Ferguson world wide net sales for the first six months of the 1961 fiscal period were \$228m., a three per cent. increase over last year.

Sales in Europe increased 16 per cent. with United Kingdom home market sales up 27 per cent. and West Germany sales up 70 per cent.

## NEW ALCON 3IN./4IN. DIAPHRAGM PUMP

E. P. Allam and Co., Ltd., 132 Sloane Street, London, S.W.1, are showing at the International Construction Equipment Exhibition a new 3in./4in. diaphragm pump with an output of 5,000 g.p.h., a suction lift of 25ft. and a total head of 40ft.

## NEW DEXION CUTTER

Dexion, Ltd., announce for sale in the United Kingdom their Mark V Cutter which requires no assembly—it can be used straight from its container, on bench or floor—and is readily portable. Cutting is just a matter of feeding in the Dexion Angle and pressing down the handle.

## Trade and Company News

## FOUR NEW INDUSTRIAL TRACTORS BY MASSEY-FERGUSON

### "Instant Reverse" Speeds Loading Operations

THE operator of the new Massey-Ferguson 205 tractor can immediately change the direction of the machine back and forth by a touch of his foot without gear changing, leaving his hands free for the other controls. Time and energy are therefore saved on loading operations when the machine is fitted with the 702 shovel.

This action is made possible by a new "instant reverse" transmission—a shuttle transmission unit situated between the torque converter and a sliding mesh gearbox. The unit comprises two hydraulically operated multi-plate friction clutches and associated shafts and gearing. Its object is to change instantly the direction of rotation of all the transmission components to the rear wheels.

The 205 is one of four new industrial wheeled tractors announced at the International Construction Equipment Exhibition by Massey-Ferguson (United Kingdom), Ltd., Banner Lane, Coventry. These include the models MF-203, MF-205, 65S and 65R, the last two being industrial versions of the existing 65 agricultural machine.

The 203 represents an improved source of motive power for the 710 digger and the 702 shovel. It is powered by a three-cylinder 3-A-152 engine, which develops 39.6 b.h.p. at a governed maximum speed of 2,000 r.p.m. The engine can absorb substantial loads down to a speed of 1,300 r.p.m. without the need to change into a lower gear.

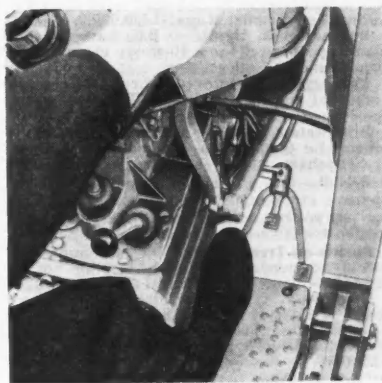
Disc type transmission brakes, sealed against dirt and water, are fitted on the 203, their combined braking area being 103 sq. in. Dual brakes are also available and full power steering is standard equipment.

The 205 has a specification based on that of the 203, with the addition of a torque converter and the shuttle transmission. On this machine the 3-A-152 engine gives 38 b.h.p. at 2,000 r.p.m. with "back-up" torque that increases through to 1,250 engine revolutions. The light power steering allows the operator to have one hand on the wheel with the other free to work the loader hydraulic levers. The 702 loader beam pivot points are right down to bonnet level and the operator has a clear view of the bucket on the ground.

For the instant reverse operation there is a single rocking pedal worked by the

right foot. The first touch of the pedal on the right engages the drive. Further pressure accelerates the engine and the tractor moves forward smoothly. When the foot is lifted the drive stops. The centre pedal accelerates the engine and the pump to speed up loader lift and tilt, while the pedal on the left engages reverse drive. Further pressure on this pedal accelerates the engine, the torque converter comes into operation and the tractor reverses, gaining speed.

The gearbox is placed immediately to the rear of the shuttle transmission unit and has two speeds, and gears of the sliding



The three pedals of the instant reverse mechanism

spur type. The two speeds are compounded by an epicyclic reduction unit on the output end of the main shaft giving a reduction of 4:1 when engaged. As a result, the operator has a choice of four different speeds and due to the action of shuttle transmission these four speeds are available in forward or reverse.

Both 203 and 205 are equipped with Ferguson system hydraulics to operate a wide range of rear mounted equipment, and are able to lift up to 2,500lb. on the rear linkage.

The new 65 tractors are powered by the four-cylinder 4-A-203D engine which has a maximum gross b.h.p. of 58.3. The 65S has a standard transmission, while the 65R is fitted with the instant reverse transmission.

There are six forward and two reverse gears on the 65S giving road speeds from 1 to 14½ m.p.h. On the 65R the four gears combined with the shuttle selection give four forward and four reverse speeds and road speeds at 95 per cent. coupling efficiency of 1 to 19 m.p.h.

The dual clutch on the 65S is a special heavy-duty design, self ventilating and with sintered metal friction surfaces of the main drive disc. Live p.t.o. and hydraulic pump drive are controlled by the second-stage feature of the clutch. Optional equipment includes a differential lock which cancels out the differential to gain full traction from both wheels where ground conditions resist adhesion of one or other tyre.

Two new attachments for use with any of these machines have also been announced by the company. One is a special ditch cleaning bucket for the 710 rear-mounted digger and the other is a subsoiler with a cable laying attachment.

The ditch cleaning bucket is equipped with three piece reversible cutting blades. It is 4ft. wide and can be fitted with two side extensions to bring the overall width up to 6ft. Holes in the bottom and sides provide for drainage.

The subsoiler, model 727, will penetrate to a depth of 21in. Cable and flexible pipe up to 1½in. diameter can be laid continuously at depths down to 16in. at speeds up to 3½ m.p.h. This method of pipe laying eliminates trenching and back-filling.

### ALTERNATIVE REMOTE CONTROL

E. Thomas and Co., Ltd., civil engineering contractors, Falmouth, recently approached Holman Bros., Ltd., Camborne, with a request for a suitable mounting for an existing diamond core drill. As this was to be used at the U.K. Atomic Energy Authority's site at Kit Hill near Callington, where underground explosive tests take place, the rig was to be capable of remote control.

Holman Bros., supplied a 14ft. cradle mount, with chain feed and air motor, capable of exerting a thrust of 2,400lb. on the chain.

The control circuit designed by Thomas's enabled the hole to be collared near the machine and subsequent drilling to be carried out with the operator's controls 200ft. distant. This control system utilised direct and remote controlled valves and pilot valves manufactured by Maxam Power, Ltd.

### IMPROVED "DOLOMENT" FLOORING

British Doloment Co., Ltd., Central Avenue, West Molesey, Surrey, have introduced an improved "Doloment" fire-proof flooring which can be laid on old timber and concrete. Having extra wear resistance and thermal insulation qualities, it is available in a selection of plain and marbled colours.

### PARKINSON COWAN SALES AGREEMENT

As a result of a sales agreement with the American Meter Company Inc., Philadelphia, U.S.A., Parkinson Cowan Gas Meters are now marketing in Great Britain the American company's volume and pressure gauges and base pressure and volume indexes.



The MF-65R tractor fitted with 702 shovel

● Trade and Company News continues on page 1558. Subsequent articles include Big Increase in Constructional Work during First Quarter (p.1561); Talking of Safety, by "Dragee" (p.1562); Quantity Surveying: Scale of Professional Charges Revised (p.1563); All-in Bid Controversy (p.1564); £300,000 Hereford Canteen Seats a Thousand (p.1565); Power Lines and Amenity (p.1567); International Construction (p.1568).



# Current Construction Activities

## PROJECTS

## CONTRACTS

## AWARDS

**THIS** editorial feature provides readers with a comprehensive news service covering forthcoming private and public construction work. Commencing on this page information is given concerning future projects followed by details of tenders being invited. In the third section will be found news of tenders recommended for acceptance, tenders accepted and contracts awarded. Attention is also drawn to the advertisements covering contracts and appointments appearing in the front part of the *Journal*.

### BUILDING AND DECORATING (See also Housing Schemes)

**Aberdeen.**—North Eastern Regional Hospital Board, 1 Albyn Place, have approved the reconstruction of Huntly Jubilee Hospital. Estimated cost £59,700.

**Acton, Middx.**—B.C. have no objection to an extension to Brunel College and to supplies depot at 249 and 67 Park Royal Road for C.C.

B.C. recommended to approve, subject to conditions, outline planning application for shopping precinct at the Gaumont Cinema site, High Street, and approve plans for additional office accommodation at second and third floor levels at 40-48 High Street, for E. Alec Colman Group of Companies, 5 Hyde Park Gate, London, S.W.7; erection of a factory at Stirling Road/Bollo Lane for Lincoln Hair Products, Ltd., 55 Stratford Road, London, W.3.

**Acton, Middx.**—Co. E.C. recommended to approve alterations to sanitary accommodation at Priory Boys' and Girls' Secondary Schools. Estimated cost £1,345.

**Alnwick, Northumb.**—Alnwick Rugby Football Club propose the erection of a clubhouse. Estimated cost £4,500.

**Ashton-in-Makerfield, Lancs.**—U.D.C. have approved the erection of 18 brick garages on the Low Bank Road housing estate.

**Aylesbury, Bucks.**—C.C. are to provide a transportable building for additional accommodation at the County Library headquarters.

**Barrow-in-Furness, Lancs.**—B.C. recommended to approve scheme to extend the present conveniences in the Market Hall. Estimated cost £2,000.

**Bedale, Yorks.**—North Riding C.C. recommended to approve the modernisation of the Leeming Bar highway depot. Estimated cost £11,275.

**Belfast.**—Hobart and Heron, Scottish Provident Buildings, Belfast, 1, are the architects; A. G. Crawford, 1 Lombard Street, Belfast, 1, the quantity surveyor; and Abbott and Partners, 16 Bedford Street, Belfast, the consulting engineers for the reconstruction of Whiteabbey Hospital for Newtownabbey Hospital Management Committee.

**Belfast.**—Ulster Television, Ltd., Ulster T.V. Centre, Havelock House, Ormeau Road, Belfast, 7, propose to erect a new studio block at Ormeau Road. Estimated cost £100,000.

Shanks and Leighton, Wellington Place, Belfast, are the architects for a three-storey block, containing 10 shops, on a site at Wellington Place for Townsend Properties, Ltd.

**Berkshire.**—C.C. propose the conversion of Bramerton, Bray, into a working girls' hostel.

**Berkhamsted, Herts.**—U.D.C. have granted planning permission for the erection of offices and workshops at Northbridge Road and an extension to the Netherfield Offices, Gravel Path, for Attwood Statistics, Ltd., Chantry House, Eccleston Street, London, S.W.1.

Ministry have approved R.D.C.'s proposal for the provision of garages behind their Boxwell House offices, High Street.

**Billingham-on-Tees, Dur.**—H. A. Dawson, Ltd., Chapel Road, are to erect car body repair shop.

**Birmingham.**—University Grants Committee have approved plans for a nuclear radiation centre at the Edgbaston site. Work expected to begin early 1963. Estimated cost £250,000.

It is proposed to invite tenders in November this year for the erection of a shopping centre at Perry Bar for Central Land Investments. Scheme includes 59 shops and an 11-storey hexagonal office block, and the architects are J. Brian Cooper and James A. Farquhar, 30 St. George Street, London, W.1. Estimated cost £1m.

**Bishop Auckland, Dur.**—U.D.C. have approved plans for supermarket at Newgate Street. Morris de Metz, architect, 29 Gloucester Place, Portman Square, London, W.1.

**Blackburn, Lancs.**—E.C. have approved a scheme for a motor engineering workshop in the new Technical College. Estimated cost £9,500.

Mullard Blackburn Works, Ltd., Phillips Road, are to erect a new training school at their works.

**Blandford, Dorset.**—B.C. recommended to approve the erection of a swimming bath on or near the recreation ground. Estimated cost £15,000.

**Blyth, Northumb.**—Jet Petroleum, Ltd., Lincolnshire, are planning the construction of an oil distribution depot at Cambois, Blyth. The scheme is being discussed with the local authorities. Estimated cost £350,000.

**Bournemouth, Hants.**—B.C. have granted planning approval for a 10-storey extension to the Municipal College.

Ministry have approved scheme for a shop arcade at the bus station in The Square for the Hants and Dorset Motor Services, Ltd.

**Bridgwater, Som.**—B.C. to proceed with scheme for the erection of a community centre at Sydenham estate. Estimated cost £10,000.

**Bristol.**—City Council recommended to approve in principle, proposal for a museum and art gallery on the Wine Street site and a garden for leisure at Castle Street.

**Burton-on-Trent, Staffs.**—B.C. recommended to invite tenders for the erection of a residential home at Hawfield Lane, Winhill.

**Cardiff.**—V. E. Parr, architect, 60 Newport Road, Cardiff, has prepared plans for the erection of an 11-storey hotel at Mill Lane, Cardiff, for R. Biss. Estimated cost £220,000.

**Carlisle, Cumb.**—The Metal Box Co., Ltd., are to carry out a three-years expansion programme at Carlisle. The contract for the first phase will be let shortly. The architects are Johnston and Wright, 13 Castle Street, Carlisle. Estimated cost £400,000.

E.C. have approved final plans for additions to Carlisle College of Art (£136,000), and the proposed Newlaithes Junior School (£68,700). The Committee expect to start work in September or October on the proposed Harraby Community Centre.

**Chapel-en-le-Frith, Derbys.**—R.D.C. recommended to approve plans for the improvement of 15 houses at Highfields, Peak Dale. Estimated cost £700 per house.

**Chatham, Kent.**—B.C. recommended to invite tenders for the construction of a sports pavilion at Luton recreation ground.

**Cheltenham, Glos.**—Town Planning Committee have approved, subject to conditions, outline application for the erection of motor showroom with offices at Montpellier Spa Road Trafalgar Street for H. A. Saunders, Ltd., 836 High Road, London, N.2.

**Chesterfield, Derbys.**—Sheffield Regional Hospital Board recommended to appoint Thornton-Firkin and Partners, Masons Chambers, Low Pavement, Chesterfield, quantity surveyors for adaptation of part of St. Mary's Ward into premature babies' unit at Scarsdale Hospital.

**Chester-le-Street, Dur.**—The Arndale Property Trust, Ltd., Howard House, Bank Street, Bradford, 1, are planning the erection of shops at Durham Road, Birtley. All the firm's building work is carried out by Leslie and Co., 80 Woodland Road, Darlington.

**Consett, Dur.**—About 20 shopkeepers and other tradesmen with premises at Market Place have agreed to take part in a face-lift scheme for their premises, similar to that carried out at Norwich. R. Turley, 46 Jesmond Road, Newcastle upon Tyne, is the architect concerned with the plan.

**Cromer, Norfolk.**—Co. E.C. recommended to include in the 1961-62 programme scheme for the erection of a secondary modern school. Estimated cost £14,000.

**Dewsbury, Yorks.**—Town Planning Committee have approved plans for the erection of extension to offices at Branch Mills, Ravenshorpe, for Smithson and Gledhill, Ltd.

**Diss, Norfolk.**—Co. E.C. recommended to include in 1961-62 programme scheme for extensions to the grammar school. Estimated cost £20,000.

**Durham.**—A dry-cleaning depot is to be built at Neville's Cross for Co-operative Laundries, Ltd., Equitable Street, Wallsend. Plans by the C.W.S. Architects' Department, 90 Westmorland Road, Newcastle upon Tyne.

R. Brown, 123 Victoria Road, Darlington, has been appointed architect by the C.C. for the Broom Cottages Modern School.

**Durham.**—R.D.C. to lease land at Gilesgate Moor to Durham C.C. for old people's hostel. Towers Sunderland, Ltd., Dunelm Cabinet Works, Framwellgate Moor, are considering the erection of a factory on the Pity Me industrial estate. Plans approved for 3,000 sq. ft. milk storage building at Langley Moor for East Durham Co-op. Dairies, Ltd. No contracts let. Plans by the C.W.S. Architects' Department, 90 Westmorland Road, Newcastle upon Tyne.

**Easington, Dur.**—W. A. Lofthouse, 134 Bek Road, Framwellgate Moor, is the architect for Pentecostal Church at Sunderland Road, Horden.

Williamson and Partners, St. Mary's Place, Newcastle upon Tyne, have prepared plans for a supermarket at the town centre, Peterlee, for L. and N. Stores, Ltd., Newcastle upon Tyne.

**Eastbourne, Sussex.**—Sketch plans have been approved for the erection of headquarters for Womens Voluntary Services. Benz and Williams, 53 Gildredge Road, Eastbourne, are the architects, and Martin and Martin, Hyde Gardens, Eastbourne, are the quantity surveyors for the scheme. Estimated cost £20,000.

**Edinburgh.**—Rowland Anderson, Kininmonth and Paul, 16 Rutland Square, Edinburgh, 1, are the architects and Jas. D. Gibson and Simpson, 3 Melville Crescent, Edinburgh, 3, the quantity surveyors for the erection of the new James Gillespie's High School for Girls for City Council. Estimated cost £360,000.

**Eston, Yorks.**—North Riding C.C. recommended to purchase land at junction of Fabian Road and Church Lane as site for the erection of multi-purpose clinic and area health office.

**Felling, Dur.**—J. M. Angus, 3, Gallowgate, Newcastle upon Tyne, is the architect for factory and offices at Green Lane for Elders Walker and Co., Sunderland Road, Gateshead.

**Feltham, Middx.**—Co. E.C. recommended to approve the erection of Sparrow Farm Primary School. Estimated cost £56,085.

**Finchley, Middx.**—Co. E.C. recommended to approve the adaptation of a room at Woodhouse Secondary School for youth club purposes. Estimated cost £970.

**Glasgow.**—L. H. Fewster and Partners, 22 Conduit Street, London, W.1, are the architects are Cyril Sweett and Partners, 37 Bedford Row, London, W.1, the quantity surveyors for the construction of a shopping centre of 60 shops at Castlemilk for Ravenscroft Properties, Ltd., London. Tenders are to be invited in about three months. Estimated cost £750,000.

**Glasgow.**—Sir Basil Spence, 40 Moray Place, Edinburgh, 3, is the architect for the terminal buildings at Abbotsinch Airport for Ministry of Aviation. Estimated cost £1m.

**Halifax, Yorks.**—B.C. have approved plan for erection of new public swimming baths on the Clare Hall site. Estimated cost £400,000.

**Harrogate, Yorks.**—B.C. recommended to approve planning permission for erection of factory and offices in Chatsworth Road for Harrogate Optical Co., Ltd., Grove Park Works, Harrogate.

**Harrow, Middx.**—Co. E.C. recommended to approve the provision of new boys' and girls' sanitary accommodation at Whitefriars Primary School, estimated cost £8,735; erection of a pavilion at Oxhey Lane central playing field, £19,900.

**Hastings, Sussex.**—B.C. recommended to appoint Caston and Porritt, 17 Havelock Road, Hastings, as quantity surveyors for the redevelopment of High Bank; invite tenders for the erection of Hastings Grammar School, estimated cost £246,881; prepare revised scheme for the completion of the high school for girls, £110,000-£120,000. Work not expected to commence before 1963-64.

Town Planning Committee have approved, subject to conditions, outline application for the erection of one 22-storey building containing hotel on ground and second to sixth



floors, and 88 two-bedroom flats on seventh to 21st floors, with three shops on ground floor and car parking for 115 cars, at Yelton Hotel, White Rock, for N. A. Eccles (Fitzroy Robinson and Partners, architects, 50 Norfolk Square, Brighton, 1); erection of a six-storey block comprising six shops on the ground floor, with 36 flats over, at 1-6 Breeds Place, for H. Fairweather and Co., Ltd. (Nicholson and Rushton, architects, 2 New Square, Lincoln's Inn, London, W.C.2).

**Haverhill, Suffolk.**—P. Barefoot, architect, 22 Thorofare, Ipswich, has prepared plans for new Council offices at Queen Street for U.D.C. Estimated cost £39,240.

**Hawes, Yorks.**—North Riding C.C. recommended to approve the erection of a recreation room for firemen on part of site on the former Friends Meeting House. Estimated cost £2,025.

**Isle of Ely.**—C.C. to submit to Home Office for approval plans for divisional police station at March, estimated cost £79,390; approve the provision of a fire station at Wisbech Road, March. £34,500.

**Isleworth, Middx.**—Co. E.C. recommended to approve the erection of a pavilion at Busch Corner playing field, for the grammar school. Estimated cost £6,600.

**Jarrow, Dur.**—Stienlet and Son, 4 Queen Square, Newcastle upon Tyne, are the architects for hall and youth centre for the R.C. Hexham and Newcastle Diocese.

It is expected that tenders will be invited in about two months' time for the erection of a Salvation Army hall at Monkton Road. Plans are by the S.A. architect, W. H. Charles, 113 Queen Victoria Street, London, E.C.4.

**King's Lynn, Norfolk.**—Co. E.C. recommended to approve plans for an assembly hall and kitchen at Clenchwarton Primary School, £16,000; instalment of an infants' school at Marham, £9,500; first instalment of a new school at Marshland St. James, £20,000; adaptations to Gaywood Hall for the County Technical College, £3,500; conversions and additions to w.c.s at Ashill, East and West Rudham, Terrington Marsh Primary Schools, Swaffham Grammar and Upwell Secondary Modern Schools, £3,650.

**Lancaster.**—Work to commence soon on extensions at the Royal Lancaster Infirmary, for the Lancaster and Kendal Hospital Management Committee. Scheme includes new night nurses' home, four flats, mortuary, X-ray and pathology department.

**Leeds.**—Outline planning approval granted for redevelopment of site of the Empire Theatre in Briggate, as a shopping arcade and offices for Industrial and Investment Services, Ltd. D. B. Coombe, architect, 10 Lodge Hill Road, Lower Bourne, near Farnham, Surrey; Leslie G. Dight, quantity surveyor, 35 Portland Place, London, W.1, and Chamberlain and Partner, 29 Bedford Row, London, W.C.1, are the consulting engineers.

Ministry have approved scheme for the erection of a remand home for boys at Skelton's Lane, Whinmoor, for City Council.

**Leeds.**—Town Planning Committee have approved plans for erection of a new territorial army centre in Skinner Lane and Sheepscar Street South, for the West Riding Territorial Army and Auxiliary Forces Association, Fenton Street.

Lease granted on the Sweet Street Light Industrial estate to Moore and Co. (Leeds), Ltd., 51a, St. Pauls Street, for the erection of warehouse, workshops and offices.

**Liverpool.**—J. Kenneth Dancer, 14 Hagley Road, Stourbridge, Wores., is the architect and Branson and Chester, Midland Bank Chambers, 43 Lece Street, Liverpool, the quantity surveyors for erection of additional cold store and meat freezing facilities for Richmond Sausage Co., Ltd., Litherland.

**Manchester.**—City Council have approved in principle, scheme to improve Manchester's youth service, providing for sports stadium, coffee bar and social centre, and a camping and training centre. Estimated cost £621,000.

**Manchester.**—Leach, Rhodes and Walker, 90 Deansgate, Manchester, 3, are the architects for office development for the Metropolitan Railway Surplus Lands Co., Ltd. Scheme in very early stages. Estimated cost £1m.

**Mansfield, Notts.**—B.C. have approved scheme to replace obsolete cooking ranges with modern fireplaces in 150 bungalows. Estimated cost £6,000.

**Melton Constable, Norfolk.**—Co. E.C. recommended to apply for sanction to borrow £20,345, for additional accommodation at the secondary modern school.

**Middlesbrough, Yorks.**—Kitching and Co., 21 Albert Road, are the architects for residential hotel at Roman Road for the Masonic Hall (Middlesbrough), Ltd.; plans have been prepared by R. Cowan, 20 Finkle Street, Stockton-on-Tees, for alterations and additions in Snowdon Road for Middlesbrough Hide and Skin Market Co., Ltd.

Head Wrightson and Co., Ltd., Thornaby-on-Tees, are planning the erection of offices

and/or machine shop on land at East Street, Gray Street and Lower Feversham Street.

**Middlesex.**—Co. E.C. recommended to approve the provision of hatted accommodation at Brunel College of Technology. Estimated cost £11,000.

**Nelson, Lancs.**—B.C. recommended to approve plans for the provision of a kitchen and dining room at St. George's R.C. School, for C.C.

**Newcastle upon Tyne.**—Alterations are proposed to the Crown and Sceptre public house, High Friar Street, for J. Nimmo and Son, brewers, Castle Eden. Plans are by the firm's architect F. B. Bainton; P. L. Browne, Son and Harding, Pearl Buildings, Northumberland Street, are the architects for alterations and additions to the Byker and Heaton Club, Shields Road, and alterations to bar at Archbold Terrace, for the Hadrian Motor Club; C. A. Parsons and Co., Ltd., Shields Road, are to construct a single bay building for the production and testing of transformers; alterations are proposed to the Convent Marie Repatrice, Osborne Road, to plans by D. Brown, 10 Lambton Road, Jesmond; a contract will be let shortly for the erection of the new St. Augustine's R.C. Secondary School. The architect is D. Brown, 10 Lambton Road, Jesmond.

Regional Hospital Board are to erect teaching units at Stannington Hospital (Northumbria) and Winterton Hospital (Co. Durham). Sketch plans are being considered.

City Town Moor and Parks Committee are recommending the erection of a greenhouse system at Jesmond Dene. Estimated cost £25,000.

Developments costing £4,000,000 are planned at the Royal Victoria Infirmary by the United Newcastle upon Tyne Hospitals. The scheme, to be spread over a period of 10 years, has still to be approved by the Ministry, and may therefore have to be revised.

**Norfolk.**—County Architect to prepare plans for an old people's hostel at Wymondham or east of Norwich.

County Library Committee have approved sketch plans for a branch library at Costessey. Estimated cost £6,000.

**North Derbyshire.**—Hope and Anchor Breweries Ltd., Claywheels Lane, Sheffield, 6 propose the erection of a motel alongside the Dore Moor Hotel, Dore.

**Northern Ireland.**—Government's advance factory building programme is to be increased by a further 12 factories ranging from 18,000 to 70,000 sq. ft. Estimated cost £9,100,000.

**Norwich.**—Planning Committee have approved schemes for the conversion of former offices at 12 Bank Street into a 15-bedroom hotel for the Raymond King Organisation; 3-storey office block at King Street as headquarters for the St. John Ambulance Brigade, 65 Thorpe Street; 3-storey office block and car park at Holland Court in the Lower Close, for the Dean and Chapter of Norwich Cathedral; in principle, demolition of existing buildings in Surrey Street and erection of a 5-storey office and showroom block for Eastern Counties Omnibus Co., Ltd., Thorpe Road; outline application for the demolition of the Norvic Cinema and erection of a 5-storey office block on the site for the Raymond King Organisation.

E.C. to apply to Ministry for permission to commence work during October on the first stage of extensions to the City College and Art School. Tenders for both stages will be invited in due course. Estimated cost £207,861.

East Anglian Regional Hospital Board have appointed E. Boardman and Son, Queen Street, as architects, for the construction of medical staff quarters at the Norfolk and Norwich Hospital.

**Nottingham.**—City Council recommended to approve the provision of six additional garages and an additional unit for day students at Nottingham Training College for Teachers. Estimated cost £1,000 and £5,400 respectively; erection during 1960-63 of self-contained youth centres at Strelley playing field, Bradfield Road and Clifton estate, £16,000 each, and four youth wing at Bestwood estate, £10,000.

**Nuneaton, War.**—B.C. recommended to invite tenders from selected contractors for the construction of swimming baths.

**Oban, Argyll.**—Royal National Mission to Deep Sea Fishermen, 43 Nottingham Place, London, W.1, propose to erect a two-storey mission. Estimated cost £15,000.

**Penshurst, Middx.**—Co. E.C. recommended to approve the repair and improvement of Orchard Cottage at Swaylands Residential Special School. Estimated cost £930.

**Portsmouth.**—City Council recommended to apply for sanction to borrow £2,125 and £4,385, respectively, for the provision of a new medical inspection/staff room at Highland Road Junior Mixed and Infant School; and of improved changing and shower facilities at Southsea Modern School for Girls.

**Prudhoe, Northumb.**—Work is expected to start next spring on the fourth stage (estimated cost £277,000) of a development scheme at Prudhoe and Monkton Hospital, for Newcastle Regional Hospital Board. The work will be let in two contracts. Plans for one contract will be prepared by P. H. Knighton, the board's chief architect, and for the other by S. W. Milburn and Partners, 9 Esplanade, Sunderland.

**Redcar, Yorks.**—North Riding C.C. recommended to approve the erection of a new branch library at Marske-by-the-Sea. Estimated cost £17,000.

**Richmond, Yorks.**—North Riding C.C. recommended to approve the construction of a new fire station at Reeth. Estimated cost £4,533.

**Rochester, Kent.**—War Office have approved plans for the erection of new barracks for Royal Engineers of the School of Military Engineering at Chattenden.

**Rotherham, Yorks.**—G. L. Willan, Ltd., Sussex Street, Sheffield, in conjunction with G. L. Willan (Castings), Ltd., and Marsh Bros. and Co., Ltd., are to erect a new factory on a 12-acre site off Sheffield Lane, Catcliffe, including separate administrative and laboratory buildings, canteen and welfare accommodation work expected to start within the next six or eight weeks.

**St. Helens, Lancs.**—Plans are being prepared for erection of a new territorial centre at Croppers Hill, for the West Lancashire Territorial and Auxiliary Forces Association, St. George Building, Lime Street, Liverpool, 1.

**Salford, Lancs.**—Planning permission granted to Threlfall's Brewery Co., Ltd., Cook Street, Manchester, 3, for erection of a new public house and car park to be known as the "Queen's Arms," Regent Road.

**Saltburn-by-the-Sea, Yorks.**—North Riding C.C. recommended to approve the erection of a garage to house an A.F.S. appliance on site of the Loftus fire station. Estimated cost £2,000.

**Sheffield.**—Outline planning permission granted for the erection of a motel in Hathersage Road, Dore, for Hope and Anchor Breweries, Ltd., Claywheels Lane, Sheffield, 6. Scheme in very early stages.

**Sheffield.**—Regional Hospital Board recommended to appoint J. D. Maidment, Pembroke House, Palmerston Road, Sheffield, 10, architect for provision of incinerators at City General/Fir Vale Infirmary, and W. H. Lancashire and Son, 54 Campo Lane, architects for coal handling plant, alterations to operating theatre and alterations to Ward S.5 at Lodge Moor Hospital.

**Shildon, Dur.**—Kitching and Co., 21 Albert Road, Middlesbrough, are the architects for converting cinema in Shildon Road into a dance hall for Thompson's Enterprises, Ltd., Palladium Buildings, Middlesbrough.

**Shrewsbury, Salop.**—Tenders will be invited during September for the erection of a general market, incorporating 25 shop units, a multiple store, produce market, office block and a clock tower, for City and Town Buildings Ltd. David Du R. A. Aberdeen, 19 Southampton Place, London, W.C.1, in association with L. E. Gregory, Poole, Dorset, are the architects and Ove Arup and Partners, 13 Fitzroy Street, London, W.1, are the consulting engineers for the scheme.

**Southgate, Middx.**—Co. E.C. recommended to approve minor improvements at the county school. Estimated cost £4,364.

**South Molton, Devon.**—B.C. recommended to approve plans for the provision of a kitchen at North Road County Primary School, for C.C.

**Stoke-on-Trent, Staffs.**—Watch Committee to submit to Home Office for approval, plans for new police headquarters. Estimated cost £230,000.

**Stourbridge, Wores.**—B.C. considering a site in the Market Street area for a multi-storey car park.

**Stratford-upon-Avon, War.**—B.C. recommended to approve in principle, outline scheme for the reconstruction of 23-24 Wood Street; approve layout plans and invite tenders for the provision of concrete garages at various housing estates.

**Sunderland, Dur.**—B.C. have approved plans submitted by Hillier, Parker, May and Rowden, estate agents, etc., 77 Grosvenor Street, London, W.1, for the erection of shops in Crowtree Road and West Street. S. W. Milburn and Partners, 9 Esplanade, are the architects for warehouse and garage at William Street for R. Farrow and Co., Ltd.; new club premises are planned at South Hyton for Vaux and Associated Breweries, Ltd. The architect is E. G. Crofts, 49 Grange Road, Darlington.

**Sunderland, Dur.**—B.C. have approved scheme for conversion of cloakroom at Seaburn Hall, into reception room, etc. Estimated cost £3,250; and proposals for an old persons' shelter at Pennwell, £844, and a play leader's building at King George V Playing Fields, £1,681.

**Sunderland, Dur.**—Ministry of Works have approved scheme to demolish Havelock Tower in Hylton Road and erect a new community centre and an office block on the site. Estimated cost: £35,000.

**Taunton, Som.**—B.C. recommended to approve the demolition of 51 and 52 High Street and erection on site of shops with flats above. Estimated cost £20,000.

**Tottenham, Middx.**—Atlas Securities, Ltd., 95 Park Lane, London, W.1, propose the erection of a block of three shons, with maisonnettes above at High Road.

**Twickenham, Middx.**—Co. E.C. recommended to approve the conversion of Oldfield House into a school for maladjusted children. Estimated cost £4,300.

**Twickenham, Middx.**—Co. E.C. recommended to approve the erection of the Normansfield County Infants' School and laying out of grounds, estimated cost £32,830; a classroom hut at the Carlisle Infants' School, £2,950.

**Tynemouth, Northumb.**—Hadrian Supply Stores, Ltd., Norham Road, North Shields, are to carry out alterations in Bedford Street, North Shields, to provide supermarket.

**Uxbridge, Middx.**—Co. E.C. recommended to approve the erection of a new applied science laboratory at Abbotsfield Secondary School. Estimated cost £8,840.

**Ware, Herts.**—C.C. are preparing plans for a new grammar school at Presdales. Estimated cost: £200,000.

**Washington, Dur.**—Hindmarsh and Partners, surveyors, 107 Northumberland Street, Newcastle upon Tyne, propose developing 280 acres of land as an industrial estate at Washington.

**Wembley, Middx.**—Co. E.C. recommended to approve the provision of a sailing base at the Welsh Harp, including repairs and instruction room, club room, kitchen, locker rooms, sanitary accommodation and showers. Estimated cost £12,600.

**Wigan, Lancs.**—Housing Committee have approved the erection of 14 bungalows at Bradshaw Street.

**Windsor, Berks.**—Co. E.C. have approved scheme for the erection of a new county girls' grammar school at Imperial Road. Estimated cost £263,286.

**Wirral, Ches.**—Bills of quantities are being prepared and tenders are about to be invited for the erection of a new church of St. Michael and All Angels at Frankby Road, Newton, West Kirby, for Rev. S. G. Barton. Paterson and Macaulay, 83 Wirral Gardens, Bebington, Ches., are the architects for the scheme. Dansken and Purdie, India Buildings, Water Street, Liverpool, 2, are the quantity surveyors and W. G. Curtin, 68 Rodney Street, Liverpool, the structural engineer. Estimated cost £26,000.

**Workington, Cumb.**—B.C. recommended to approve plans for alterations and extensions to St. Joseph's Secondary Modern School, Harrington Road, for The Rev Fr. P. S. D'Arcy, The Priory, Banklands, Workington.

#### DEMOLITION

**Edinburgh.**—Housing Committee propose to invite tenders for the demolition of the old tramway depot at Portobello, for City Council.

**Morley, Yorks.**—B.C. recommended to proceed with the demolition of the air-raid shelter at Scatterd Park. Estimated cost: £170.

#### ELECTRICAL

**Enfield, Middx.**—Co. E.C. recommended to approve improvements to the electric lighting at the technical college. Estimated cost £1,956.

**Stoke-on-Trent, Staffs.**—City Council recommended to approve scheme for the installation of traffic lights at Albion Square, Hanley.

#### FENCING

**Potters Bar, Middx.**—Co. E.C. recommended to approve the provision of boundary fencing at Oakmere Primary School. Estimated cost £980.

#### GAS AND WATER SUPPLY

**Birmingham.**—City Council recommended to approve scheme for abstraction of water from the River Severn to increase the City's supply from the Elan Valley. Estimated cost £3,750,000.

**Chipping Norton, Oxon.**—R.D.C. to submit to Ministry for approval revised area water scheme with an 18in. pipeline replacing the suggested 24in. main from Swinford reservoir to Woodstock.

**Freebridge Lynn, Norfolk.**—Co. Health Committee have approved in principle R.D.C.'s water supply scheme for Grimston, Leziate and West Winch. Estimated cost £7,135.

**Macclesfield, Ches.**—District Water Board recommended to approve the laying of a new 12in. water main, about a mile and a third long from the Tytherington pumping station

across the fields to Prestbury to supply Prestbury, Nether Alderley and Over Alderley. Estimated cost £15,000.

#### HARBOURS, PIERS AND SEA DEFENCE WORKS

**Poole, Dorset.**—Harbour Commissioners have approved in principle plans for the construction of a jetty at Blue Lagoon for Savack Service, Ltd., Sterte Avenue, Poole.

**Yarmouth, I. of W.**—Pier and Harbour Commissioners have approved scheme for extension of the quay. It is hoped that tenders and specifications will go out at the beginning of July; acceptances from mid-July to mid-August, and work will start on October 1. Lemon and Blizard, Telford House, Hulse Road, Southampton, are the consulting engineers for the scheme. Estimated cost £54,000.

#### HEATING AND VENTILATING

**Peterborough.**—Co. Health Committee recommended to appoint Lucas and Pyke, 25 Caxton Street, London, S.W.1, as consulting engineers, for the heating and electrical installations in proposed new fire station and ambulance station at Dogsthorpe.

**Portsmouth.**—City Council recommended to appoint G. H. Buckle and Partners, 22 East Street, Southampton, as consulting engineers for heating, ventilating and electrical services for the proposed divisional police headquarters at Kingston Crescent.

#### HOUSING SCHEMES

**Barnsley, Yorks.**—B.C. recommended to approve plans for erection of 73 houses and garages on land off Burton Road, Monk Bretton, for J. F. Thorpe and Sons, Ltd., 28 Meadowhead Drive, Sheffield, 8.

**Bromyard, Herts.**—R.D.C. preparing plans for three old people's bungalows at Ocle Pychard and Whitbourne.

**Bury St. Edmunds, Suffolk.**—B.C. recommended to approve the construction of 49 houses (for employees of Barber-Greene and Olding and Co., Ltd.) at Westley estate; submit to Ministry and Co. Planning Officer for approval, proposal for 3-storey housing units at Northumberland Avenue.

**Cheltenham, Glos.**—B.C. recommended to prepare sketch layout plans for the first stage of development of Elm Farm, comprising the erection of 200 three-bedroom houses.

Town Planning Committee have approved, subject to conditions, plans for the erection of 20 detached bungalows with garages at Old Bath Road, for Span Developments, Ltd., The Hall, 5 Foxes Dale, S.E.3; outline application for the erection of 47 dwellings on Nursery Garden Land, 309 Arle Road, for Western Estates (Lawes Cherry), Ltd., Norwood Road, Cheltenham.

**Cheltenham, Glos.**—J. M. Hill and Sons Ltd., Heather Park Drive, Wembley, Middx., to erect a five-storey block of 25 flats on site of temporary fire station at Lansdown Road. Kenneth Anns and Partners, 1 Lincoln's Inn Fields, London, W.C.2, are the architects for the scheme.

**Colchester, Essex.**—B.C. are applying for planning permission to erect a block of old people's flats on Shrub End estate, including accommodation for a resident warden. Estimated cost £75,000.

**Darlington, Dur.**—B.C. to consider estimate by the Borough Architect for erecting 46 houses on Firth Moor estate by Direct Labour.

**Durham.**—W. Veti, Keswick Avenue, Fulwell, Sunderland, is planning the erection of houses on the Park Hill estate, Bowburn; R. E. Coleman, Ltd., High Street, Carlisle, have received planning permission for 200 houses at White House Farm, Witton Gilbert.

**Fareham, Hants.**—South East Hampshire Area Planning Committee have approved U.D.C.'s scheme for approximately 400 houses, a church and community centre adjoining West End estate.

**Felling, Dur.**—J. H. Fisher and Co. (Newcastle), Ltd., Lansdowne Terrace, Gosforth, are to erect 44 semi-detached houses near Chilside Road.

**Glasgow.**—City Council propose two housing projects costing about £2,500,000 to provide 942 flats. The schemes include the redevelopment of Ibroxholm and the development of Mossbank Drive and West of Muir Drum Avenue. Both developments will include 22-storey blocks. The designs are by the City Architect's staff.

**Grangemouth, Stirlings.**—Dean of Guild Court have approved plans for 99 houses and 90 garages at Loanhead Avenue and Clare Road for B.C. Estimated cost £197,000.

**Harrogate, Yorks.**—Tenders are expected to be invited at the end of next month from selected contractors for the erection of 12-storey blocks of luxury flats at Park Place, Harrogate, Yorks., for Park Place, Harrogate, Ltd. Phases 1 and 2 of the scheme, 200 dwellings, are likely to cost about £750,000.

Plans are by Morris de Metz, 29 Gloucester Place, London, W.1, with James Cubitt and Partners, 25 Gloucester Place, London, W.1, acting as consulting architects for the layout and elevations. The quantity surveyors are Wakeman Trower and Partners, St. Paul's House, St. Paul's Street, Leeds, 1, and the structural engineer, W. V. Zinn, Collingham House, Eagle Street, London, W.C.1.

**Hastings, Sussex.**—B.C. recommended to approve, subject to Ministry approval, scheme prepared by B. Stevens and Partners, architects, 49 Havelock Road, Hastings, for the redevelopment of 83-86 High Street. Estimated cost £33,000.

Town Planning Committee have approved, subject to conditions, plans for the erection of two 18-storey blocks of 96 flats with 72 car spaces in the basement adjoining 21 Woodland Vale Road, for Newdan Property Investment Co. (Dinerman, Davison and Hillman, architects, 13 Perrins Lane, London, N.W.3); outline application for the erection of one nine-storey block of flats with basement garage at The Greeba site, Marina, for The Tilt Estate Co., 152 Peckham Rye, London, S.E.22.

**Havant and Waterloo, Hants.**—Planning Committee have granted outline approval for the erection of 17 houses and 12 flats at Fourth Avenue, Denvilles, Havant, for Glenfield, Ltd., 1A Clive Road, Fratton, Portsmouth.

**Kingston-upon-Thames, Surrey.**—B.C. to prepare detailed plans for the erection of 46 units of accommodation at Anglesea Square, and hope to commence the first 14 units during 1962.

**Lakes, Westmor.**—U.D.C. propose the erection of 25 houses at Grasmere and Chapel Stile during 1961-62. Estimated cost £50,000.

**Leyburn, Yorks.**—R.D.C. to negotiate contract for erection of 16 houses at Middleham and four houses and two bungalows at Newton-le-Willows.

**Lowestoft, Suffolk.**—B.C. recommended to invite tenders for the erection of 76 traditional type dwellings on the Gunton estate in place of 70 temporary prefabricated bungalows formerly on the north and west sides of Spashett Road and Mantis Crescent, and in an area surrounded by Spashett Road, Mountbatten Road, Tedder Road and Martello Road as the second stage of replacement of 250 temporary bungalows.

**Morley, Yorks.**—B.C. recommended to approve plans for the layout of housing estate and erection of 56 dwellings off East Park Street for James Miller and Partners, Ltd., Newmillerdam, Wakefield.

**Normanton, Yorks.**—U.D.C. have approved housing development schemes for Castleford Road, Benson Lane and Church Road, Althofts.

**Rotherham, Yorks.**—R.D.C. have approved the erection of 100 houses and 72 two-bedroom flats in various parishes.

**St. Ives, Hunts.**—Air Ministry propose the erection of 200 more houses at R.A.F. Wyton.

**Salisbury and Wilton, Wilts.**—R.D.C. to purchase land at Laverstock for housing purposes.

**Stoke-on-Trent, Staffs.**—City Council recommended to approve, subject to conditions, applications to construct 238 dwellings, and street works and Longdole Farm, off Weston Coyney Road and 27 pairs of bungalows and one detached bungalow off Weston Coyney Road, Longton, for E. Fletcher (Stoke), Ltd., Mayer Street, Hanley.

**Swaffham, Norfolk.**—Ministry have approved R.D.C.'s scheme for the erection of 10 bungalows in five parishes. Tenders are to be invited.

**Tadley, Hants.**—Ministry have approved scheme for the erection of 12 houses with garages and six shops with flats above at Franklin Avenue, for Davis Contractors Ltd., 352 Kilburn High Road, London, N.W.6.

**Teignmouth, Devon.**—U.D.C. to purchase, subject to Ministry approval, site at Speranza Grove for the erection of six old people's flats.

**Uttoxeter, Staffs.**—U.D.C. have prepared plans for a block of flats comprising six bed-sitter flats with six two-bedroomed maisonnettes over, together with ten lock-up garages in Park Street, on the King George Playing Field.

**Walsall, Staffs.**—Ministry have approved, subject to conditions, scheme for the erection of multi-storey flats fronting Birmingham Road for Trent Contractors, Ltd., McGhie Street, Hednesford, Staffs.

**Wells-next-Sea, Norfolk.**—U.D.C. to prepare draft layout plans for old people at rear of Mill Road houses and redevelopment of area between Stearman's Yard and Dogger Lane.

**West Lanes.**—R.D.C. propose the erection of 75 more old people's bungalows this year in various parishes.

**Wisbech, I. of E.**—B.C. to submit for planning approval, scheme for three blocks of three flats in the George Street redevelopment area.



## PLAYING FIELDS, PARKS, ETC.

**Cheltenham, Glos.**—B.C. recommended to proceed, subject to Ministry approval, with the layout of the recreation ground and phase one of Chelt Walk, Hesters Way. Estimated cost £4,491.

**Harrow, Middx.**—Co. E.C. recommended to approve the construction of games facilities and the laying out of the garden surrounds at Whitefriars Secondary School. Estimated cost £6,040.

**Middlesbrough, Yorks.**—Proposals have been submitted to the Corporation Parks Committee for laying out land at Prissick Farm as a sports centre. The scheme includes open-air swimming pool, 200ft. by 100ft., 12 tennis courts, bowling greens, children's playground, and pitches for football, cricket, netball and archery.

**Newport, Mon.**—B.C. recommended to purchase land at Lliswerry Pond field for laying out of two football pitches, two baseball pitches and a cricket square.

**Ruislip - Northwood, Middx.**—Co. E.C. recommended to approve the laying out of the playing field at Masson Avenue Primary School. Estimated cost £1,275.

**Swansea.**—B.C. recommended to approve in principle the appointment of Miss Sylvia Crowe, 182 Gloucester Place, London, N.W.1, as landscape consultant for the foreshore development between the railway marshalling yards and Mumbles Head.

**Tadworth, Middx.**—Co. E.C. recommended to approve the construction of a playing field at Red House Residential School. Estimated cost £900.

**Twickenham, Middx.**—Co. E.C. recommended to approve the laying out of the garden surrounds and the construction of tennis courts at the technical college. Estimated cost £3,000.

**Uxbridge, Middx.**—Co. E.C. recommended to approve the laying out of garden surrounds at Uxbridge, Hillingdon, Bishopshalt School. Estimated cost £1,360.

## RIVER AND FLOOD PREVENTION WORKS

**Aldeburgh, Suffolk.**—Land Drainage Committee of the East Suffolk and Norfolk River Board to submit to Ministry for grant aid, scheme for improving sea defences. Estimated cost £11,030.

**Felixstowe, Suffolk.**—Land Drainage Committee of the East Suffolk and Norfolk River Board to submit to Ministry for grant aid, scheme for extending Felixstowe Ferry defences. Estimated cost £16,900.

**Hereford.**—River Lugg Internal Drainage Board have submitted to Ministry for approval, scheme for the improvement of The Stank. Estimated cost £30,000.

**Horncastle, Lincs.**—Lincolnshire River Board have submitted to Ministry for approval, scheme for the improvement of the River Waring and the Thunker Drain. Estimated cost £85,500.

**Lincolnshire.**—River Board have approved the installation of two additional pumps at the black sluice and the widening of the south 40ft. drain for five miles upstream of Donington Bridge. Estimated cost £358,270.

**Suffolk.**—Land Drainage Committee of the East Suffolk and Norfolk River Board to submit to Ministry for grant aid, scheme for repairing the left bank of the River Blyth to protect Bulcamp Marshes. Estimated cost £11,030.

**Woodbridge, Suffolk.**—Land Drainage Committee of the East Suffolk and Norfolk River Board to submit to Ministry for grant aid, scheme for strengthening defences as protection against flooding from the River Dedon. Estimated cost £27,650.

## ROADS, BRIDGES AND SITE WORKS

**Acton, Middx.**—B.C. recommended to approve scheme for the laying out of land at junction of The Vale/Bromyard Avenue as a car park.

**Barford, War.**—Co. Roads Committee have approved in principle scheme for widening Mill Lane. Estimated cost £1,400.

**Belfast.**—Improvement Committee have agreed in principle to a road system including dual two-lane carriageways, controlled intersections and an elevated central road. The schedule allows for work to start in five years and be completed in a further 10 years. Estimated cost £10m.

**Berkhamsted, Herts.**—U.D.C. are preparing plans for the construction of a footpath on the east side of Chesham Road.

**Berkshire.**—M.T. have approved scheme for improvements to the A.4 at the cross-roads with Pound Lane, Sonning, during the current financial year, for C.C.

**Bristol.**—Planning Committee have approved plan for the construction of a bridge over Fairfax Street to link Newgate with

the Bristol Co-operative Society's new multi-storey car park.

**Chatham, Kent.**—B.C. recommended to prepare plans for the making-up of Kingsway from Hunter's Way West to the borough boundary.

**Chippenham, Wilts.**—B.C. recommended to apply for sanction to borrow £10,000 for the first stage of development of Monkton Park, comprising the provision of footpaths, public conveniences and a bridge across the river.

**Durham.**—C.C. have generally approved a £15,400 scheme for a traffic roundabout at the junction of Church Road and the east side inner relief road at Stockton-on-Tees.

**East Suffolk.**—Roads and Bridges Committee have approved plan for the reinstatement of roads through the old airfield at Ellough, near Beccles. Estimated cost £19,000.

**Hastings, Sussex.**—B.C. recommended to proceed with the following schemes during 1961-62: Re-laying of kerbs and improvements to bend at Filsham Road-St. Saviour's Road. Estimated cost £2,000; removal of in-situ concrete paving and lay new surfacing at Cinema-de-Luxe, White Rock Promenade, £6,500; improvements to Beaufort Road at Eversley Road Bus Depot, £1,500; surfacing of footways and re-laying kerbs, etc. at Barley Lane, £1,350; re-laying kerbs and slab paving at York Road, £1,600.

**Hornsey, Middx.**—B.C. recommended to submit to Ministry for approval scheme for the widening and improving of Archway Road (trunk road A.1).

**Newcastle upon Tyne.**—Coast Road Committee have approved a £678,000 scheme for widening the Coast Road in the Newcastle area. It is proposed to provide two 36ft. carriageways, each with three traffic lanes. Two underpasses are also planned.

Town Planning Committee has approved a new scheme for the construction of a large traffic roundabout at the junction of Pilgrim Street, City Road, Mosley Street, and the Tyne Bridge approach. The cost will be about £1,300,000, and work is expected to start before the end of the year.

**Northamptonshire.**—M.T. have approved scheme for the provision of a cycle track alongside the A.6 from Finedon to Irthlingborough, for C.C. Estimated cost £5,000.

**North Riding.**—C.C. recommended to proceed with the construction of the Stokesley By-pass Road. Estimated cost £150,000.

**Oxford.**—City Council recommended to retain the services of G. A. Jellicoe, architect, 12 Gower Street, London, W.C.1, as landscape consultant for the Meadow Road scheme.

**Portsmouth.**—City Council recommended to apply for sanction to borrow £1,300 for improvements to the eastern end of Cumberland Street.

**Shrewsbury, Salop.**—B.C. have approved scheme for construction of a link road between the Monkmoor and Ditherington districts. Ministry and C.C. have granted £180,000 and £60,000 respectively towards the cost of scheme estimated at £300,000.

**Somerset.**—Ministry are likely to approve for grant-earning purposes, during the current financial year, an extension of the Bridgwater inner relief road in a westerly direction to join the Minehead Road at Penel Orlieu, for C.C. Estimated cost £100,000.

C.C. propose the construction of a new road across the airfields at Weston Zoyland and Merryfield. Estimated cost £20,000.

**Surrey.**—Ministry have informed C.C. that the following schemes are included in the 1961-64 programme: A.24—widening between Pixham Lane and Dorking By-pass estimated cost £400,000; B.283—Worcester Park railway bridge, £105,000; A.24—Holmwood diversion, £460,000; A.25—Old Oxted By-pass, £200,000.

**Waltham Holy Cross, Essex.**—U.D.C. are preparing bills of quantities for the improvement of Lea Road.

**Welwyn, Herts.**—Parish Council are to submit to M.T. for grant aid scheme for class A lighting for the stretch of the Great North Road from the junction with Canonfield Road, Welwyn, to New Road, Woolmer Green. Estimated cost £2,738.

## SEWERAGE, SEWAGE AND REFUSE DISPOSAL

**Barnsley, Yorks.**—B.C. recommended to approve scheme for the construction of a foul sewer in Burton Road. Estimated cost: £20,310.

**Berkhamsted, Herts.**—U.D.C. are to submit to Ministry for approval scheme for the installation of four sludge digestion tanks at the sewage works. Estimated cost £14,500.

**Bridge-Blean, Kent.**—R.D.C. have approved in principle main drainage scheme for Adisham. Estimated cost £73,000.

**Brightlingsea, Essex.**—U.D.C. have approved revised plans for the proposed sewer-

age and sewage disposal scheme. Estimated cost £159,000.

**Cheltenham, Glos.**—B.C. recommended to proceed with the provision of sewers and services at Elm Farm to serve proposed housing development.

**Clare, Suffolk.**—Ministry have approved in principle the extension of the pumping station at Great Wratting as the second stage of R.D.C.'s water augmentation scheme, estimated cost £26,800, total estimated cost of scheme £82,500.

R.D.C. to prepare and submit to Ministry and C.C. for approval sewerage scheme for Stoke and Hundon.

**Dorchester.**—B.C. have submitted to Ministry for approval scheme prepared by A. P. I. Cotterell and Son, consulting engineers, 54 Victoria Street, London, S.W.1, for the construction of an outfall sewer from Little Britain to Louds Mill. Estimated cost £23,850.

**Edmonton, Middx.**—Co. E.C. recommended to approve modifications to playground drainage at Wilbury Way Primary School. Estimated cost £1,000.

**Evesham, Worcs.**—R.D.C. to submit to Ministry, C.C. and Severn River Board, for approval, sewage disposal scheme for Inkberrow. Estimated cost £46,500.

**Hartismere, Suffolk.**—R.D.C. to obtain quotations for sinking a well and providing two submersible pumps for a ditch at the end of Redgrave Fen, in connection with the disposal of the saline waste water from the headworks. Estimated cost £1,000.

**Hastings, Sussex.**—B.C. recommended to apply for sanction to borrow £8,460 and invite tenders for the extension of the two storm water outfalls at Harold Place and Caroline Place.

**Havant and Waterloo, Hants.**—U.D.C. to submit to Ministry for approval in principle, scheme for a relief surface water sewer for the Purbrook area. Estimated cost £12,000.

**Lakes, Westmor.**—U.D.C. to proceed during 1961-62 with scheme for improvements at the Ambleside sewerage works. Estimated cost £40,000.

**Leek, Staffs.**—R.D.C. recommended to proceed with the preparation of sewerage schemes for Bagnall and Stanley Moor, Stanley, and the additional work required at the Baddeley Green disposal works. Estimated cost £50,282.

**Lydd, Kent.**—B.C. have approved, subject to approval, scheme for the construction of a permanent sewage disposal plant to serve Dungeness nuclear power station.

**Macclesfield, Ches.**—B.C. to proceed with the preparation of scheme for extensions to the sewage disposal works at Prestbury.

**Richmond, Yorks.**—R.D.C. have submitted to North Riding C.C. for approval sewerage and sewage disposal scheme for Colburn. Estimated cost £18,790.

**Rotherham, Yorks.**—R.D.C. have approved in principle scheme for new sewage pumping station at Ulley. Estimated cost £21,000.

**Startforth, Yorks.**—R.D.C. have submitted to North Riding C.C. for approval sewerage and sewage disposal scheme for Bowes. Estimated cost £15,465.

**Wenlock, Salop.**—B.C. have submitted to C.C. for planning permission schemes for new sewage disposal works at Little Wenlock and extensions to sewage disposal works at Much Wenlock.

**Wigan, Lancs.**—B.C. to apply for sanction to borrow £2,200 for surface water drainage at the Valley Road site.

## STREET LIGHTING

**Dorchester.**—B.C. recommended to approve scheme for improving the lighting at The Grove to class A standard during the current financial year.

**Halifax, Yorks.**—B.C. propose to spend £20,000 on improved street lighting.

**Lichfield, Staffs.**—R.D.C. have approved a street lighting improvement scheme for the parish of Shenstone, to include the remainder of Blake Street. Estimated cost £1,746.

## CONTRACTS

Full details of the Contracts marked \* will be found in our Advertisement Columns.

## BUILDING AND DECORATING

(See also Housing Schemes)

**Abercarn, Mon.**—Construction of 17 prefabricated garages at High Meadow, together with approach road, apron and associated site-works, for U.D.C. Documents from the Surveyor, Council Offices, Abercarn. Deposit £2 2s. Tenders by July 18.



**Abercarn, Mon.**—Construction of forecourt walls at Pentwyn Terrace, Trinant, for U.D.C. Construction of approximately 100 super. yd. of 9 in. brick forecourt wall to 1-11 (odd), inclusive, together with the provision and fixing of metal gates. Documents from the office of the Surveyor, Council Offices, Abercarn. Deposit £1 1s. Tenders by July 17.

**\*Aspull, Lancs.**—External painting of houses for U.D.C. Deposit £2 2s. Tenders by July 1.

**Bakewell, Derbys.**—Interior decoration of the Council Offices, Bath Street, for R.D.C. Documents from A. T. Cuckson, surveyor, Bath Street, Bakewell. Deposit £2 2s. Tenders by July 1.

**Ballymena, Antrim.**—Supply, fabrication and erection of structural steelwork for an advance factory at Ballymena, for Ministry of Commerce. Documents from Room 14, Chichester House, 64 Chichester Street, Belfast, 1. Tenders by June 28.

**Ballymoney, Antrim.**—Following for U.D.C.: (a) Construction of flagged footpaths, etc.; (b) external decoration of 80 houses and flats at Glebeside housing estate. Documents from R. Robinson and Sons, surveyors, Riada House, Ballymoney. Tenders by July 3.

**Barnet, Herts.**—Provision of bathroom, hot water installation, electrical and general repair works including decorations, to 33 Salisbury Road, for U.D.C. Documents from Engineer and Surveyor, Ravenscroft House, 61 Wood Street, Barnet. Tenders by July 1.

**Bath.**—Alterations and adaptation for use as a reference library, reading room and for museum displays, 16, 17 and 18, Queen Square, for City Council. Applications to the City Planning Officer and Architect, 7 North Parade Buildings, Bath, by June 24. Deposit £2 2s. Tenders by July 21.

**Bebington, Ches.**—Erection and completion of a hostel block and 23 bungalows on land at Kennet Road, off Teehey Lane, for B.C. Documents from the office of the Borough Engineer and Surveyor, Town Hall, Bebington. Deposit £3 3s. Tenders by July 10.

**Bedfordshire.**—Selective school, Brickhill estate, Bedford, for Co. E.C., consisting of single and two-storey buildings of brick construction. The total superficial floor area is 54,584 sq. ft. (approximate cost £250,000). Applications, giving details of similar contracts recently carried out, to the County Architect, Shire Hall, Bedford, by July 1. Heating engineers and electrical contractors are also invited to submit their names by the above date for consideration to tender for the undermentioned sub-contracts in connection with the above: (a) Engineering services; (b) electrical installation.

**Bedfordshire.**—Following for C.C.: (a) Bedford, erection of four pairs of semi-detached and two detached police houses on the Brickhill estate (approximate cost £32,000). (b) Great Gaddesden, St. Margaret's Special School, alterations to existing and provision of new prefabricated timber hutments and new swimming pool and plant (approximate cost £66,000). Applications to the County Architect, Shire Hall, Bedford, by July 1. Heating engineers and electrical contractors are also invited to submit their names by the above date for consideration to tender for the undermentioned sub-contracts in connection with the above: (a) Engineering services; (b) electrical installation.

**Belfast.**—Alterations and extension to Ministry of Labour and National Insurance Local Office, Corporation Street, Belfast, 1, for Ministry of Finance. Documents from Room 103, Law Courts Building, Belfast, 1. Deposit £5. Tenders by July 7.

**Berkhamsted, Herts.**—Erection of 19 garages in four blocks, together with the formation of tarmacadam forecourt and vehicular crossings and other incidental works, for U.D.C. Documents from the Engineer and Surveyor, Civic Centre, Berkhamsted. Deposit £2 2s. Tenders by July 11.

**Birkenhead, Ches.**—Erection and completion of a branch library at Laird Street, for B.C. Documents from Borough Architect, 3 Conway Street, Birkenhead. Deposit £2 2s. Tenders by July 1.

**Bollington, Ches.**—External painting of the pavilions, etc., at the Recreation Ground, Adlington Road, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Bollington, Macclesfield. Tenders by June 30.

**Bournemouth, Hants.**—Erection of a centre for the physically handicapped in Darracott Road Southbourne, for B.C. Documents from the Borough Architect's office (Room 106), Town Hall, Bournemouth, on June 30. Deposit £2 2s. Tenders by July 20.

**Bournemouth, Hants.**—Provision of a new cloakroom and sanitary accommodation at Malmesbury Park C.P. School, Malmesbury

Park Road and Pokesdown C.P. School, Livingstone Road, for B.C. Documents from the Borough Architect's office (Room 106), Town Hall, Bournemouth. Deposit £2 2s. each. Tenders by July 10.

**Bournemouth, Hants.**—Conversion of Shelley Lodge and Shelley Cottage, Muscliffe, into three dwellings, for B.C. Documents from the Borough Architect's office, Room 106, Town Hall, Bournemouth. Deposit £2 2s. Tenders by July 18.

**Bridge Blean, Kent.**—Alterations and improvements, installation of hot water and bathrooms, and incidental works at 25 houses at Chequers Orchard and Town Road, Petham, for R.D.C. Documents from the Engineer and Surveyor, 41 Old Dover Road, Canterbury. Tenders by July 5.

**Brighouse, Yorks.**—External painting of houses and properties as follows, for B.C.: Group 1, 43 prefab bungalows at Whinney Hill; 2, Clifton Hospital flats and lodge; 3, Stoneleigh, Halifax Road, Brighouse. Documents from the office of the Borough Engineer, Commercial Street, Brighouse. Tenders by July 14.

**Cannock, Staffs.**—Erection of one block of eight shops and four flats, including garages and siteworks at each of the following sites, for U.D.C.: (a) Longford Road, 34C; and (b) Pve Green Road, 53B. Applications to H. Wilcox, architect, High Green, Cannock, by July 3. Deposit £2 2s. Tenders by July 31.

**Cardiff.**—Demolition and rebuilding the frontage of 189-191, Pearl Street, Splott, for City Council. Documents from the Building Maintenance Section, Trade Street, Cardiff. Deposit £2 2s., cheque payable to Corporation. Tenders by June 30.

**Cardiff.**—Extensions and alterations to the Brynnyon Approved School, Cardiff Road, Dinas Powis, Glamorgan, for City Council. The works comprise a new two-storey teaching block to provide five classrooms, laboratory, staff room, cloakroom and toilet accommodation and alterations and extensions to the existing building. Documents from City Architect's Department, Municipal Offices, Greyfriars Road, Cardiff. Deposit £2 2s., cheques payable to Corporation. Tenders by July 13.

**Cardiff.**—Improvements to the front elevation and general alteration and improvement works at the Cardiff Corporation Transport Depot, Sloper Road, for City Council. Documents from the City Architect's Department, Municipal Offices, Greyfriars Road, Cardiff. Deposit £2 2s., cheques payable to the Cardiff Corporation and crossed "Not Negotiable and Co." Tenders by July 13.

**Cardiff.**—Erection of a children's convenience, mess room and stores at Hodges Square, Butetown, for City Council. Documents from the City Architect's Department, Municipal Offices, Greyfriars Road, Cardiff. Deposit £2 2s., cheques payable to Cardiff Corporation and crossed "Not Negotiable and Co." Tenders by July 5.

**Carrickfergus, Antrim.**—Laying at the Town Hall on prepared joists approximately 215 sq. yd. of Canadian maple flooring, including sanding and sealing to ballroom finish, for B.C. Documents from the Borough Surveyor's Office, Town Hall, Carrickfergus. Tenders by July 1.

**Castle Donington, Leics.**—External painting of 218 traditional houses, Park Lane estate, for R.D.C. Documents from E. N. Pearson, Council Offices, 4 Clagun Street, Castle Donington, near Derby. Deposit £1 1s., cheque payable to R.D.C. Tenders by June 27.

**Church, Lancs.**—External painting of 38 dwellings (bungalows, houses and flats), for U.D.C. Documents from the Surveyor's Office, Council Offices, Church. Deposit £1 1s. Tenders by July 1.

**Clun, Salop.**—Improvements to 1 and 2 Lea Cottages, near Bishop's Castle, for R.D.C., comprising the installation of bathrooms, water closets, drainage system and ancillary works. Documents from the Surveyor, Council Offices, The Square, Bishop's Castle, Salop. Tenders by July 6.

**Cork, Eire.**—Erection of a National School at Ballinora, Co. Cork, for Office of Public Works. Documents from the Secretary, Office of Public Works, 51 St. Stephen's Green, Dublin, 2. Tenders by July 11.

**Denholme, Yorks.**—External painting of 16 houses and Council Offices, for U.D.C. Documents from the Surveyor, Council Offices, Denholme, Bradford. Tenders by July 1.

**Doncaster, Yorks.**—Alterations and extensions to stores depot and erection of lock-up garages, Sunnyside, Edenthorpe, contract 382, for R.D.C. Documents from J. A. Williams, surveyor, Nether Hall, Doncaster. Deposit £5 5s. Tenders by July 7.

**Dudley, Worcs.**—Supply and erection of structural steelwork (150 tons approximately) to form the frame of new shops, two and three storeys in height, at Hall Street, for

B.C. Applications to John T. Lewis, borough architect, 5 Ednam Road, Dudley, by June 28. Deposit £2 2s.

**Dunchurch, War.**—Painting of 49 street lamps for Parish Council. Documents from C. R. Nason, clerk to the Council, Nethercroft, Southam Road, Dunchurch, Rugby. Tenders by June 30.

**Eastbourne, Sussex.**—Alterations and additions to provide a new lecture room and lavatory accommodation, etc., at civil defence headquarters, Furness Road, for B.C. Applications to the Borough Surveyor, 2 and 4 Saffrons Road, Eastbourne by July 10. Deposit £2 2s., payable to Corporation. Tenders by August 18.

**Eccles, Lancs.**—Following work at 192 flats being erected for B.C.: 1. Electrical installations; 2. kitchen cupboard fittings. Documents from the office of Frank Bradley, architect, 4 Wood Street, Bolton. Deposit £2 2s., each. Tenders by July 1.

**Elstree, Herts.**—R.D.C. invite applications from firms desirous of being placed on the Council list of selected contractors for the following: (a) Building and civil engineering works (£100-£50,000); (b) supply of tyres, cement, sand and paint. Form of application from the Clerk of the Council, Council Offices, Shenley Road, Boreham Wood, Herts.

**Fifeshire.**—Painter work at Glenwood Secondary School, Glenrothes (approximately 91,000 sq. ft.), for C.C. Applications to the County Clerk, County Buildings, Cupar, by June 28.

**Grimsby, Lincs.**—Structural alterations to Holme Hill school kitchen, Heneage Road, for Education Committee. Documents from J. V. Oldfield, borough engineer and architect, Municipal Offices, Town Hall Square, Grimsby. Deposit £2. Tenders by July 14.

**Guildford, Surrey.**—Erection of offices forming extensions to two existing buildings at Millmead House and lodge for R.D.C. Documents from J. W. Snape, Millmead House, Guildford, from July 1. Deposit £4 4s. Tenders by July 27.

**Hillsborough, Down.**—External plastering of 18 existing houses at Anahilt, for R.D.C. Documents from the Council Offices, Dublin Road, Lisburn. Deposit £3 3s. Tenders by July 3.

**Hornchurch, Essex.**—List of building contractors for U.D.C. Apply by June 30.

**Huddersfield, Yorks.**—Heating and hot water installation at new home for aged, Reinwood estate, for B.C. Documents from Borough Architect's Office, High Street Buildings, Huddersfield. Tenders by July 10.

**Keighley, Yorks.**—Painting work at the following for B.C.: Devonshire Park; King George's playing fields, Marley; Lund Park; Oxenhope cemetery; Utley cemetery; Victoria Park. Documents from the Borough Architect's Department, College Street, Keighley. Deposit £1. Tenders by July 7.

**Lancashire.**—Alterations to old Grammar School, Chorley, to form a day training college, for C.C., including the forming of stores, offices and lecture rooms, repairs to floors, removal and replacement of laboratory fittings, finishes, etc. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by June 26.

**Lancashire.**—Demolition and reconstruction of part of the Ashton-under-Lyne St. James C.E. (controlled) school, including dry rot and general repairs. Work is to form new staff room, boys' toilets, etc., for C.C. Applications to the County Architect, P.O. Box 26, County Hall, Preston, by June 26.

**Lancashire.**—Erection of a four-classroom extension in traditional construction, floor area approximately 2,600ft. super, at Leyland Worden County Secondary School, near Preston. Work includes site works, services and finishes, for C.C. Applications to County Architect, P.O. Box 26, County Hall, Preston, by June 26.

**Leeds.**—Stripping of existing roofing tiles and recovering with "Redland" tiles to twenty houses at Halton estate, for City Council. Documents from Director of Works, Sweet Street, Leeds, 11. Deposit £2 cheques payable to Corporation. Tenders by July 10.

**Liverpool.**—Construction of new swimming baths, Speke, for City Council. Documents from City Architect and Director of Housing, Blackburn Chambers, Dale Street, Kingsway, Liverpool, 2. Deposit £2 2s., payable to City Treasurer. Tenders by July 18.

**Luton, Beds.**—Following for B.C.: (a) Electrical installation, 17 blocks of three-storey flats, Whipperley Ring; (b) alterations to fruit market; (c) cladding to annexes, new hangar, Luton Airport. Documents from the Borough Architect, Town Hall, Luton. Tenders by July 6.

**Macclesfield, Ches.**—External painting of the Council Offices, King Edward Street, for R.D.C. Documents from the offices of the Engineer and Surveyor, Council Offices, King Edward Street, Macclesfield. Deposit £2. Tenders by July 10.

**Magor and St. Mellons, Mon.**—Renewal of 22 gates at Bassaleg Road, Newport, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Baneswell, Newport. Deposit £1 1s. Tenders by July 3.

**Mansfield, Notts.**—Construction of workshop block and open shedding in brickwork at the Corporation's central depot, Great Central Road, for B.C. Documents from A. E. Carr, water engineer, Great Central Road, Mansfield. Deposit £2 2s. Tenders by July 8.

**Middlesbrough, Yorks.**—North Riding infirmary, Middlesbrough, erection of a new ear, nose and throat, out-patient department for Newcastle Regional Hospital Board. The extension will be of single storey, load-bearing brick construction, with concrete slab floor and felt covered flat roof, and will contain a floor area of 3,000 sq. ft. approximately. It is expected that it will be possible for the building operations to commence in September, 1961. The project has been planned by and will be carried out under the direction of Mr. P. H. Knighton, regional architect. Applications to the Secretary of the Board, Benfield Road, Newcastle upon Tyne 6, by June 30.

**Newton Abbot, Devon.**—Erection of 18 garden sheds, in concrete block construction, at Mount Pleasant, Chudleigh, for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Kingsteignton Road, Newton Abbot. Tenders by July 4.

**Newton Abbot, Devon.**—Conversion of 55 Highweek Road into two one-bedroom flats for U.D.C. Documents from the Surveyor, 18 Devon Square, Newton Abbot.

**Norfolk.**—Erection at Attleborough of a divisional police headquarters (floor area approximately 8,700ft. super) and eight staff houses, for C.C. Applications to the County Architect, 27 Thorpe Road, Norwich, NOR 01T, by June 28.

**Norfolk.**—Following works for Co. E.C.: Old Buckenham—adaptations as secondary modern; West Walton New County Primary; Clenchwarton County Primary—hall and kitchen; Cromer Secondary Modern—additional accommodation; Litcham—adaptation as secondary modern; Marham Infants—first instalment; Marshland St. James New Primary—first instalment; Old Buckenham New Primary; West Walton—adaptation as secondary modern. Applications to F. Lincoln Ralphs, chief education officer, County Education Office, Stracey Road, Norwich, by June 28.

**North Shields, Dur.**—Construction of two-storey brick structure, designed to take a third storey, having precast concrete first floor and flat roof, adjacent to the Tyne Commission Quay at Albert Edward Dock, for Tyne Improvement Commission. Documents from the Chief Engineer, Bewick Street, Newcastle, 1. Deposit £3 3s. Tenders by July 13.

**Nottingham.**—Cleaning and painting at the undermentioned buildings, for Education Committee. External and part internal, college of art and crafts, Waverley Street. Internal, college of art and crafts annexe, Clarendon Street. Tennyson Hall (part), Tennyson Street. Documents from the Education Office, (Sites and Buildings Department), Exchange Buildings, Smithy Row, Nottingham. Deposit £1 each. Tenders by July 10.

**Nottingham.**—Construction of major extensions at the Ellis and Guilford Schools, Bar Lane, Basford, for City Council. Documents from the City Engineer and Surveyor, Guildhall, Nottingham. Deposit £2. Tenders by July 12.

**Okehampton, Devon.**—Works of reconstruction to convert the existing nine cottages known as Gowman's Terrace, North Tawton, to six dwellings, for R.D.C. Documents from the Engineer and Surveyor, R.D.C. Offices, Oaklands Drive, Okehampton. Deposit £2 2s. Tenders by July 20.

**Orkney.**—Primary School, Papdale, Kirkwall, painting and decoration work, for C.C. Documents from the County Architects Department, Mounthoolie Lane, Kirkwall. Tenders by June 30.

**Ossett, Yorks.**—Internal redecoration of the public hall, staircases, vestibules and cloak rooms of the Town Hall for B.C. The work is to be commenced and completed during August. Documents from the Borough Surveyor's Department, Town Hall, Ossett. Tenders by July 7.

**Petersfield, Hants.**—Erection of a block of 10 pre-cast concrete garages, together with the concrete base, hardstanding and drive-in on the Uplands Road estate, Rowlands Castle, for R.D.C. Documents from the Engineer and Surveyor, The Old College, Petersfield. Deposit £2 2s. Tenders by July 4.

**Richmond, Surrey.**—Erection of approximately 1,500yd. of dwarf brick walls to the front boundaries of houses in the Ham area, for B.C. Documents from the Borough Engineer and Surveyor, Kings Road, Richmond. Tenders by July 3.

**Rochdale, Lancs.**—Following painting schemes for Rochdale and District Hospital Management Committee: (1) Operating theatres, Rochdale Infirmary; (2) Holden and

Turner wards, Rochdale Infirmary; (3) F ward, Birch Hill Hospital; (4) internal washing down and external colour wash work, Rochdale Children's Out-patient's Clinic. Documents from G. R. Eastwood, group secretary, Central Offices, Birch Hill Hospital, Rochdale. Tenders by June 29.

**Romford, Essex.**—Supply and erection of a building measuring 18ft. by 18ft. clad with western red cedar, to serve as a refreshment kiosk. The contract will include the foundation works, plumbing, drainage and internal fittings, for B.C. Documents from the Borough Engineer and Surveyor, Town Hall, Romford. Deposit £2 2s. Tenders by July 10.

**Southampton.**—Snapdeck roofing and aluminium fascias and cladding at new college of technology, for B.C. Applications to Borough Architect, Civic Centre, Southampton, by June 24. Tenders by July 20.

**Southport, Lancs.**—Interior decorating work in various welfare service committee properties, for B.C. The work is divided into four contracts. Contractors may tender for any number of contracts. Documents from the Borough Architect and Town Planning Officer's Department, 99/105 Lord Street, Southport. Deposit £1 1s. Tenders by July 7.

**Spilsby, Lincs.**—External painting and decoration of 130 Council dwellings within the district for R.D.C. Separate tenders are required for each site. Documents from G. F. Taylor, Council's housing manager, Toynnton Hall. Tenders by July 1.

**Stanley, Yorks.**—Erection of 10 water closets to houses 135/153 Batley Road, Kirkhamgate, for U.D.C. Documents from the Public Health Inspector, Council Offices, Coach Road, Outwood. Tenders by July 3.

**Stepney.**—Exterior redecoration of 85 flats, for B.C. Documents from the Borough Engineer and Surveyor, Municipal Offices, 227/233 Commercial Road, E.1. Tenders by July 3.

**Stourbridge, Worcs.**—Erection of a brick built pavilion and public conveniences at Mary Stevens Park, for B.C. Documents from H. W. Morris, borough engineer and surveyor, Council House, Stourbridge. Deposit £2 2s. Tenders by July 7.

**Strabane, Tyrone.**—Alterations and improvements, together with services and ancillary site works, at Council Offices, Derry Road, for R.D.C. Documents from the office of W. and M. Given, quantity surveyors, 3 Richmond Street, Londonderry. Deposit £5 5s. Tenders by July 3.

**Swansea.**—Erection of a science laboratory at Oystermouth County Secondary School for B.C. Documents from O. S. and J. H. S. Portsmouth, architects, 7 Wind Street, Swansea. Deposit £2 to Architects. Tenders by July 10.

**Thornaby-on-Tees, Yorks.**—Provision of approximately 80 cubicle partitions, rubber doors, etc., to the existing changing room accommodation, at municipal baths, for B.C. Documents from the Borough Engineer, Town Hall, Thornaby-on-Tees. Tenders by June 28.

**Thornaby-on-Tees, Yorks.**—Design and fabrication of stainless steel structures, for the supply of a diving stage and equipment for erection during January, 1962, at municipal baths, for B.C. Documents from the Borough Engineer, Town Hall, Thornaby-on-Tees. Tenders by June 28.

**Towcester, Northants.**—External painting of Council houses as follows for R.D.C.: (Contract 240) Eighteen houses at Blakesley Road, Main Street and Plumpton Road, Woodend; (246) 32 houses and four bungalows at Connegar Leys, Blisworth; (247) 37 houses and 10 bungalows at Towcester and Church View, Greens Norton. Documents from G. Bennidge, Council's surveyor, 163 Watling Street West, Towcester. Deposit £1 1s. each contract. Tenders by July 7.

**Twickenham, Middx.**—Improvements to 17 properties at Rose Hill and Oldfield Road, Hampton, for B.C. Applications to the Borough Engineer, Municipal Offices, Twickenham, by June 26. Deposit £2 2s.

**Tynemouth.**—Erection of public convenience at Hudson Street, North Shields, for B.C. Documents from the Borough Surveyor, 16, Northumberland Square, North Shields. Deposit £1 1s. Tenders by July 17.

**Wallasey, Ches.**—Redevelopment at Harrison Drive. Erection of conveniences, for B.C. Documents from the Borough Architect, Town Hall, Wallasey. Tenders by July 12.

**Wallasey, Ches.**—Supply of fireplaces, etc., for B.C. Tenders by July 11.

**West Riding.**—Building up fronts of verandahs and provision of windows, etc., at 5 Block Male, Beech Towers, Staincliffe, Dewsbury, for C.C. Documents from Divisional Architect, Bishopgarth, Westfield Road, Wakefield. Tenders by July 17.

**West Riding.**—Following work for C.C.: Bowland County Secondary—part internal painting; Gisbourn County Primary School—internal and external painting. Documents from D. Matthew, divisional education officer, Education Office, Water Street, Skipton. Tenders by June 30.

**West Riding.**—Internal and external painting of Keighley Technical College, for C.C. Applications to the Divisional Architect, Salisbury Buildings, Albert Street, Harrogate. The work is to be carried out during the period 10 July to 11 September, 1961. Tenders by July 11.

**West Riding.**—Renewal of lead gutters around the Central Hall at Skipton Parish Church School, Brougham Street, Skipton, for C.C. Documents from D. Matthew, divisional education officer, Education Office, Water Street, Skipton. Tenders by July 4.

**West Suffolk.**—Following for C.C.: (a) Erection of new house, wing and garage; (b) erection of new range of farm buildings, together with concrete approach roads and other services at Hardy's Farm, Market Weston. Documents from the County Land Agent, Shire Hall, Bury St. Edmunds. Tenders by July 25.

**Widnes, Lancs.**—Selected lists of contractors from whom tenders will be invited during the period ending 31 March 1962, for the erection of new schools, extensions and/or alterations to existing schools, for B.C. The lists will be for contracts of the following values: List 1—for contracts of the value of £15,000 to £50,000; 2—for contracts of the value of £50,000 to £100,000; 3—for contracts of the value of £100,000 or more. Applications to Frank Howarth, town clerk, Town Hall, Widnes, by 10 a.m. July 3, accompanied by full particulars of works of the particular category recently carried out, preferably for local authorities, together with the name and address of the Architect or Authority. Details of labour resources must be given, and banker's reference. Applicants are asked to confirm in writing that, in tendering for building work, they will not follow the restrictive practices criticised by the Monopolies Commission.

**Wokingham, Berks.**—Redecoration in offices in the Town Hall for B.C. Documents from the Borough Surveyor, Town Hall, Wokingham. Tenders by July 3.

**Worcester.**—Adaptations at the Teachers' Training College for City Council. Documents from Holland W. Hobbiss and Partners, 36 Waterloo Street, Birmingham, 2. Applications to the Director of Education, 13 High Street, Worcester, by July 18.

**Worcester.**—Sanitary accommodation at Hillborough for City Council. Deposit £3 3s. Tenders by July 13.

**Yeovil, Som.**—Erection of public conveniences for R.D.C. Tenders by July 20.

#### CLOTHING AND TEXTILES

**\*Cheshire.**—Supply police uniforms for C.C. Applications by July 15.

**Lancashire.**—Supply of rubber boots and P.V.C. clothing for the period August 1, 1961, to July 31, 1963, for C.C. Documents from the County Medical Officer of Health, East Cliff County Offices, Preston. Tenders by July 1.

**Newcastle-under-Lyme, Staffs.**—Supply of:—(a) 470 suits blue overalls; (b) 60 suits white overalls, for B.C. Documents from the Borough Engineer and Surveyor, Lancaster Building, High Street, Newcastle. Tenders by June 29.

**\*Redcar, Yorks.**—Supply of protective clothing for B.C. Tenders by July 3.

#### DEMOLITION

**Blaby, Leics.**—Demolition and site clearance as follows for R.D.C.: (a) 25 to 37 and 45 to 55 Chapel Street, Enderby; (b) 69 to 85 Hinckley Road, Sappcote. Documents from the Engineer and Surveyor, Council Offices, Narborough, Leics. Tenders by July 10.

**Rushden, Northants.**—Demolition of 12 houses at Kilburn Place, for U.D.C. Documents from the office of the Engineer and Surveyor, Council Buildings, Rushden. Tenders by June 30.

**Wednesbury, Staffs.**—Demolition of Reliance Foundry, Birmingham Street, for B.C. Documents from A. W. Ewart, borough engineer and surveyor, Town Hall, Wednesbury. Deposit £2 2s., cheque payable to Corporation. Tenders by July 10.

#### ELECTRICAL

**Cardiff.**—Electrical installation in proposed blocks of maisonnettes at Loudoun Square, Butetown, for City Council. Documents from the City Surveyor, City Hall, Cardiff. Deposit £2 2s., cheques payable to Corporation. Tenders by June 30.

**Farnborough, Hants.**—Rewiring of the electrical installation of part of the town hall offices and council chamber (83 lighting points and 58 power points) and for the supply and installation of main distribution panel, for U.D.C. Applications to the Engineer and Surveyor, Municipal Offices, Alexandra Road, Farnborough. Tenders by July 3.

**Leatherhead, Surrey.**—Installation of 13-amp power points in 119 pre-war Council dwellings, for U.D.C. Documents from the Engineer and Surveyor, Red House, Leatherhead. Tenders by July 3.



**Manchester.**—Supply and delivery of cubicle type switch-board and control panel to the City Abattoir, Newton Heath, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by July 3.

**Montgomeryshire.**—Electrical installation at the Welshpool Community Centre, for C.C. Documents from J. A. Davies, director of education, County Offices, Newtown. Tenders by June 30.

**Northern Ireland.**—Supply and erection at Coolkeeragh Power Station, Londonderry, of 400 volt contactor switchgear, specification 1635, for Electricity Board. Documents from Kennedy and Donkin, the Board's consulting engineers, 64 Royal Exchange, Manchester, 2. Deposit £3 5s., cheques payable to the Board. Tenders by August 14.

**Sowerby Bridge, Yorks.**—Electrical inter-communication call system, in 37 houses at Beechwood estate, for U.D.C. Documents from the Engineer and Surveyor's Department, Beech Royd, Beech Road, Sowerby Bridge. Tenders by July 3.

**Wallasey, Ches.**—Installation of 978 electric power socket outlets in pre-war houses in the Leasowe area, for B.C. Documents from the Borough Architect, Town Hall, Wallasey. Tenders by July 11.

#### FENCING

**Dagenham, Essex.**—Supplying and erecting 1,486 yd. of concrete palisade fencing for B.C. Documents from the Borough Engineer and Surveyor, Civic Centre, Dagenham. Tenders by July 1.

**Devonshire.**—Fencing at Lamb Hill, trunk road A.38, for C.C. Tenders by June 26.

#### GAS AND WATER SUPPLY

**Athlone, Eire.**—Water supply improvement scheme, contract 3, for U.D.C., comprising the construction of a water tower of 330,000-gallon capacity, together with the following water mains: 1,880 lin. yd. 9 in. S.I. pipes; 195 lin. yd. 6 in. S.I. pipes; 100 lin. yd. 4 in. S.I. pipes; 342 lin. yd. 3 in. S.I. pipes. Documents from Nicholas O'Dwyer, Son and Partners, consulting engineers, 6 Burlington Road, Dublin. Deposit £10 10s. Tenders by July 18.

**Belfast.**—Construction of a covered reservoir with mass concrete walls and reinforced roof, approximate capacity one million gallons, with auxiliary works, for Belfast City and District Water Commissioners. The works are situated at Ballyaghagan, Antrim, about 2½ miles from the centre of Belfast. Documents from the Chief Engineer, Water Office, Belfast, 1. Deposit £10. Tenders by July 10.

**Blackpool, Lancs.**—Supply and delivery of precast prestressed concrete beams and columns and precast concrete beams for the roofing of Westby reservoir for Fylde Water Board. Documents from the Engineer, Fylde Water Board, Sefton Street, Blackpool. Tenders by July 14.

**Buxton, Derbys.**—Supply and laying of approximately 2,300 yd. of 3 in., 4 in., and 6 in. water mains on Green Lane and Temple Mead and Green Park estates, for B.C. Documents from the Borough Engineer, Town Hall, Buxton. Deposit £2 2s. Tenders by July 3.

**Coleraine, Londonderry.**—Supply, delivery and fitting of steelwork and bottom plates in the 16 pressure filters at the Filter House, Carthall, for Coleraine, Portrush and Portstewart Waterworks Joint Board. Documents from H. F. Boyd, board's engineer, 1 Ferryquay Street, Coleraine. Deposit £2 2s. Tenders by July.

**Hemsworth, Yorks.**—Fitzwilliam water supply (contract 3) for the Joint Water Committee. Deposit £5 5s. Tenders by July 21.

**Loughborough, Leics.**—Laying spun-iron water main, for B.C. Deposit £2 2s. Tenders by July 10.

**Minehead, Som.**—Laying water main, for U.D.C. Tenders by July 4.

**Oundle and Thrapston, Northants.**—Laying and jointing of approximately 14 miles of 4 in. diameter spun-iron water mains with Tyton joints, together with ancillary works, in the parishes of Aoethorpe and Woodnewton for R.D.C. Documents from the offices of Pick, Everard Keav and Gimson, consulting engineers, 6 Millstone Lane, Leicester. Deposit £2 2s. Tenders by July 19.

**Peterborough.**—Diverting and altering existing 4 in., 15 in. and 18 in. water mains and the construction of multiple hydrants, for City Council. Documents from City Engineer, Town Hall. Deposit £2. Tenders by July 5.

**Roxburgh.**—Cutting trenches and laying about 4,870 yd. 3 in. a.c. and s.i. pipes and 320 yd. of 2 in. a.c. pipes with ancillary works at Southdean, for C.C. Documents from the County Engineer's Office, Newtown St. Boswells. The Engineer will meet intending offerers at Chesters Crossroads, Southdean, at 2.30 p.m. June 27. Tenders by July 10.

**South Derbyshire.**—Supply of the following pumping plant for Water Board: (a) Two motor-driven horizontal split casing

pumps to deliver 1,800 g.p.m. against 145 ft. head; (b) two motor-driven horizontal split casing pumps to deliver 1,400 g.p.m. against 105 ft. head. Documents from the Engineer and General Manager, 1 Tenant Street, Derby. Tenders by July 14.

**Wymondham, Norfolk.**—Provision and laying of approximately 2,350 lin. yd. of 3 in. asbestos-cement water mains, together with all valves, fittings and other ancillary work, in extending the existing water main to Silfield, for U.D.C. Applications to W. Herbert Bateman and Partners, consulting engineers, Halifax House, Bank Plain, Norwich, by June 24. Deposit £2 2s. (cheques payable to U.D.C.). Tenders by July 25.

#### HARBOURS, PIERS AND SEA DEFENCE WORKS

**\*Frinton and Walton, Essex.**—(a) Cliff retaining walls and (b) parapet coping for U.D.C. Deposit £2 2s. Tenders by July 11.

#### HEATING AND VENTILATING

**Berkhamsted, Herts.**—Removal of obsolete heating and cooking appliances and the installation of tiled surrounds with backboilers in 41 Council houses in the following parishes, for R.D.C.: Aldbury, five; Little Gaddesden, 11; Potten End, 13; Wigginton, 10; Wilstone, two. Documents from the Council's Surveyor, Boxwell House, 275 High Street, Berkhamsted. Tenders by July 3.

**Bromsgrove, Worcs.**—Installation of hot water systems from fire back units, with airing cupboards, new sinks and washbasins in 110 houses, for U.D.C. Documents from the Housing Manager, The Council House, Bromsgrove. Tenders by July 4.

**Cardiff.**—Proposed old people's home, Newborough Road, Llanishen, heating and allied services, for City Council. Documents from the City Surveyor, City Hall, Cardiff. Deposit £2 2s., cheques payable to Corporation. Tenders by July 18.

**Dagenham, Essex.**—Conversion of existing solid fuel heating system to oil firing at the Borough Restaurant for B.C. Documents from the Borough Engineer and Surveyor, Civic Centre, Dagenham. Tenders by June 30.

**East Riding.**—Installation of heating and hot and cold water services for a garden work-room unit at Longcroft School, Beverley, for C.C. Applications to the County Architect, County Hall, Beverley. Tenders by June 28.

**Huntingdonshire.**—Huntingdon Grammar School. Renewal of the pipework, fittings and thermostats in the boys' and girls' showers, for Co. E.C. Documents from S. M. Holloway, county architect, County Buildings, Huntingdon. Tenders by July 3.

**Thornaby-on-Tees, Yorks.**—Supply and installation of one coke-fired steel boiler suitable for low-pressure steam with a rating of 1,100,000 B.Th.U.s per hour at Municipal Baths for B.C. Documents from the Borough Engineer, Town Hall, Thornaby-on-Tees. Tenders by June 28.

**\*Wallasey, Ches.**—Heating installation at the Secondary Technical School for Girls, Leasowe, for B.C. Tenders by July 10.

#### HOUSING SCHEMES

**Antrim.**—Caretaker's dwelling, Larkfield Intermediate School, Dunmurry, for Co. E.C. Documents from Kenneth A. MacCormac, director of education, 475/477 Antrim Road, Belfast, 15. Tenders by June 28.

**Ashton-in-Makerfield, Lancs.**—One hundred and ten dwellings on the Low Bank Road housing estate, for U.D.C., to be completed within 12 months from commencement. Applications to Frank Dean, clerk of the Council, Town Hall, Ashton-in-Makerfield, by June 30.

**\*Atherstone, War.**—Dwellings at Long Street, for R.D.C. Deposit £2 2s. Tenders by July 17.

**Battle, Sussex.**—Ten bungalows at Coombs Cottages, Beckley, for R.D.C. Documents from the office of the Housing Manager, The Watch Oak, Battle, or at the office of Bernard Stevens and Partners, 49 Havelock Road, Hastings. Deposit £2 2s. Tenders by July 10.

**Billingham, Dur.**—One hundred and sixteen houses, 18 flats and three blocks of garages on the Low Grange estate, contract period 15 months, for U.D.C. Documents from the engineer and surveyor, Council Offices, Haveron Hill, Billingham. Deposit £5 5s. Tenders by July 14.

**\*Bradford, Yorks.**—Twenty aged persons' flats for City Council. Deposit £2 2s. Tenders by July 20.

**\*Bridge-Blean, Kent.**—Twelve flats, etc., for R.D.C. Deposit £2 2s. Tenders by July 12.

**Buxton, Derbys.**—Fifty houses on section 3 of the Victoria Park estate, for B.C. Documents from the Borough Engineer, Town Hall, Buxton. Deposit £2 2s. Tenders by July 6.

**\*Caistor, Lincs.**—Housing at Horsemarket for R.D.C. Deposit £3 3s. Tenders by July 11.

**Diss, Norfolk.**—Thirty-nine permanent brick dwellings on the housing estate at Skelton Road, situated between Victoria Road and Frenze Road, for U.D.C., consisting of 27 houses in five blocks and one block of 12 maisonnettes. Applications to A. F. Scott and Sons, architects, 23 Tombland, Norwich, NOR. 08P. Deposit £2. Tenders by July 4.

**Gelligaer, Glam.**—Erection of six bungalows and incidental road works at The Drive, Gelligaer, Bargoed, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Hen-god. Deposit £3 3s. Tenders by July 7.

**Hull.**—Two hundred and nineteen dwellings and 74 garages, Boothferry estate, for City Council. Documents from City Architect, Guildhall, Hull. Deposit £2, payable to City Treasurer. Tenders by June 30.

**Limerick, Eire.**—One hundred and fifty-five houses at Greenhill-Tankfield, for City Council, consisting of: 22 five-apartment houses; 107 four-apartment houses; and 26 three-apartment houses, together with fuel stores and all necessary site works. Documents from S. O. P. O'Ceallachain, architect, Arus na Cathrach, Rutland Street, Limerick. Deposit £10. Tenders by July 24.

**Louth, Lincs.**—Following for R.D.C.: (1) Approximately 580 sq. yd. of access road consisting of pitched stone foundation with tarmacadam surfacing, and approximately 350 sq. yd. of tarmacadam footpath together with concrete kerbs, channels, s.g.w. gullies, surface water drainage, and water services with other ancillary works; (2) two one-bedroom and two two-bedroom bungalows, together with associated drainage and ancillary works on the Council's existing housing site at Tetney. Documents from the Council's Architect, 2 New Street, Louth. Deposit £3 3s. each tender. Tenders by July 12.

**Manchester.**—Following for City Council: (a) Detached house; (b) pair of houses; at Langho Colony, near Blackburn. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by July 12.

**\*Mitcham, Surrey.**—Six flats at Tamworth Lane for B.C. Apply by June 28. Tenders by July 31.

**Newtownards, Down.**—Thirty-eight houses and 14 garages at Mill Street, scheme 1, stage 1, for B.C. Documents from the Town Clerk, Town Hall, Newtownards. Deposit £5. Plans seen at the offices of G. P. and R. H. Bell, 26/27 Ocean Buildings, Donegall Square East, Belfast. Tenders by June 30.

**Norwich, Norfolk.**—Following for City Council: (a) Seven dwellings and four garages, Berners Close, Mill Hill estate; (b) 11 dwellings, Taylor Road, West Earham estate; (c) 76 dwellings and 20 garages, Midland Street redevelopment area. Documents from the City Architect's Office, City Hall, Norwich, Nor. 01A. Tenders by July 17 for (a) and (b) and Aug. 28 for (c).

**Oakengates, Salop.**—Three pairs of two-bedroom bungalows at Charlton Street, for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Stafford Road, Oakengates. Deposit £3 3s. Tenders by July 12.

**Thedwastre, Suffolk.**—Three pairs of houses at School Road, Elmswell, for R.D.C. Documents from Peter Barefoot, architect, 22 Thorofare, Ipswich. Deposit £2 2s. Tenders by Aug. 2.

**Thingoe, Suffolk.**—Following for R.D.C.: Barnham—three pairs houses; Bradfield St. George—two pairs bungalows. Submit names to Council's architect, J. H. Warren, 5 Angel Hill, Bury St. Edmunds, by June 26.

**Truro, Corn.**—Eight flats at Malpas Road estate. Documents from the office of the City Engineer and Surveyor, Town Hall, Truro. Deposit £2 2s. cheque. Tenders by July 4.

**Wakefield, Yorks.**—All trades for the erection of eight houses at Thornthorpe Avenue, Shay Lane, Crofton, for R.D.C. The Council will arrange separate contracts for the electrical installations, but the building contractor will be required to provide for all other trades. Documents from the Engineer and Surveyor, 18 St. John's North, Wakefield. Tenders by July 8.

**Whittlesey, Northants.**—One hundred and fifteen dwellings at New Road housing site, together with roads and sewerage works, for U.D.C. Applications to H. Kewish, clerk of the Council, Council Offices, Whittlesey, Peterborough, Northants, by noon, June 28.

**Widnes, Lancs.**—Following for B.C.: (a) One pair of houses at Brynn Street; and (b) 11 houses, consisting of two blocks of four, and one block of three, and three garages situated between Abbey Road and Herolds Close. Documents from the Borough Architect, Brendan House, Widnes. Deposit £5 5s. each, cheques payable to Corporation. Tenders by July 10.

**Wing, Beds.**—Following groups of dwellings, for R.D.C.: Group I—Park Gates Hostel, conversion of existing hostel buildings into five bungalows (three single-bedroom and two two-bedroom bungalows), erection of three single-bedroom bungalows; II—Littleworth housing



site, erection of 22 dwellings; III—Littleworth housing site, erection of 12 dwellings for ultimate sale; IV—Littleworth housing site, erection of district nurse's house. Documents from H. A. Rolls, architect, 15 Bridge Street, Leighton Buzzard. Deposit £2 2s. Tenders by July 17.

\***Worcester.**—Three bungalows and six garages for City Council. Deposit £3 3s. Tenders by July 17.

\***Wortley, Yorks.**—Three blocks of two three-bedroom houses, one block of two two-bedroom houses, access road and two garage sites at Burncross, Chapeltown, near Sheffield, for R.D.C. Documents from Arthur Wikeley, Council Offices, Grenoside, Sheffield. Deposit £5. Tenders by July 6.

#### MATERIALS AND SUPPLIES

\***Chapel-en-le-Frith, Derbys.**—Supply of 188 lavatory wash hand basins, complete with taps, waste trap, stand, waste pipe, etc., for R.D.C. Documents from the Engineer and Surveyor, Council Offices, Hayfield Road, Chapel-en-le-Frith, via Stockport. Tenders by July 15.

\***Great Yarmouth, Norfolk.**—Supply of 250 3½ cu. ft. and 500 2½ cu. ft. capacity dustbins, for B.C. Documents from the Housing Manager, 11 Hall Quay, Great Yarmouth, Norfolk. Tenders by July 3.

\***Holborn.**—Supply, delivery and maintenance of approximately 1,000 automatic parking meters and posts, for B.C. Fixing of meters to posts after erection by Council, supply of hoods, spare mechanisms and other ancillary parking meter equipment. Documents from the Borough Engineer and Surveyor, Town Hall, High Holborn, W.C.1. Tenders by June 29.

\***Manchester.**—Washed concrete aggregate for Corporation Waterworks. Tenders by July 3.

#### MISCELLANEOUS

\***Newport, Mon.**—Supply and installation of radio telephones in the ambulance service, for B.C. Documents from the Medical Officer of Health, Civic Centre, Newport. Tenders by July 3.

#### PLANT AND MECHANICAL TRANSPORT

\***Ballycastle, Antrim.**—Supply and delivery to Council Yard, Ballymoney, of a 26in. rotary scythe with cylinder mower attachment interchangeable with the rotary unit, for U.D.C. Documents from R. Robinson and Sons, surveyors, Riada House, Ballymoney. Tenders by July 3.

\***Birmingham.**—Supply of plant for Birmingham Tame and Rea District Drainage Board. Tenders by June 26.

\***Hindley, Lancs.**—Supply of one Karrier Gamecock vehicle, for U.D.C. Documents from T. G. Grime, engineer and surveyor, Town Hall, Hindley. Tenders by June 23.

\***Knaresborough, Yorks.**—Supply and delivery of a 15cwt. Bedford dropside truck, for U.D.C. Documents from the Surveyor, Knaresborough House, Knaresborough. Tenders by July 10.

\***Manchester.**—Supply of plant, for City Council. Tenders by July 4.

\***Newtown and Llanilwchaearn, Monts.**—Supply of one Karrier Bantam 7 cu. yd. side loading petrol engine refuse collector, 27 by 6 tyres, with dual purpose body in primer, for U.D.C. The Council has a Ford Thames 7 cu. yd. side loading refuse collector, Tuke and Bell body, with V.8 engine which is expected to be taken in part exchange. The vehicle was first registered in July, 1951. The Council does not bind itself to accept the lowest tender. Full particulars of the vehicle should be given together with the delivery period. Tenders in a plain sealed envelope endorsed "Tender, Refuse Collecting Vehicle," to Norman Morris, clerk of the Council, Town Hall, Newtown, by noon, July 1.

\***Northam, Devon.**—Supply of one Karrier Bantam two-ton highway tipper, with a 1949 Austin 30cwt. tipping lorry being offered in part exchange, for U.D.C. Documents from the Surveyor, Council Offices, Northam. Tenders by July 5.

\***Ormskirk, Lancs.**—Supply of one 3-ton Bedford diesel engine lorry and one Bedford long wheelbase 15cwt. van for U.D.C. Documents from the Surveyor, Council Offices, Burscough Street, Ormskirk. Tenders by July 8.

\***Orpington, Kent.**—Supply refuse collection vehicle for U.D.C. Tenders by July 3.

\***Romford, Essex.**—Supply of three Ford vans and one steam cleaner for B.C. Tenders by June 28.

#### PLAYING FIELDS, PARKS, ETC.

\***Birkenhead, Ches.**—Layout of playing fields for St. Winefride's Secondary School for Girls for B.C. Documents from Borough Architect, 3 Conway Street, Birkenhead. Deposit £2 2s. Tenders by June 27.

\***Bromley, Kent.**—Norman Park, layout of central area for B.C., comprising the levelling, underdraining, cultivation and seeding of approximately 14 acres, the laying of 350 lin. yd. of 42in. diameter concrete tubes, fencing and ancillary works. Documents from the office of the Borough Engineer, Municipal Buildings, Bromley. Tenders by July 7.

\***Cwmbran, Mon.**—Construction of a 440yd. running track, together with permanent facilities for field events at the Cwmbran sports centre, for U.D.C. Documents from Council's Surveyor, Council Office, Cwmbran. Deposit £2 2s. Tenders by July 10.

\***Down.**—Formation of playing fields at Dundonald Intermediate School, and the erection of temporary classrooms at Dundonald Primary School, for E.C. Documents from the Education Committee, 7 Brunswick Street, Belfast. Deposit £3 3s. each contract. Tenders by July 5.

\***Harlow, Essex.**—Various playing field works, for U.D.C. Deposit £2 2s. Tenders by July 10.

\***Hull.**—Preparation of 14.4 acres of playing fields (including the construction of four hard tennis courts, two concrete cricket wickets and athletic areas) at the new Saltshouse High School, Saltshouse Road, for City Council. Documents from the General Superintendent, Parks, etc., Department, 79 Ferensway, Kingston upon Hull. Tenders by July 11.

\***Manchester.**—Layout of playing fields, running tracks, etc., at police training centre, Bruche, Warrington, for City Council. Documents from City Architect, P.O. Box 488, Town Hall, Manchester. Tenders by July 12.

#### RIVER AND FLOOD PREVENTION WORKS

\***Cambridge.**—Cleansing of public water-courses and ditches for City Council. Deposit £2 2s. Tenders by July 13.

#### ROADS, BRIDGES AND SITE WORKS

\***Altrincham, Ches.**—Private street works—De Quincey Road, for B.C. Deposit £2 2s. Tenders by July 10.

\***Beaconsfield, Bucks.**—Housing scheme 19, for U.D.C. Deposit £2 2s. Tenders by July 14.

\***Bedford.**—Resurfacing of about 1,450 sq. yd. of carriageways with cold asphalt for B.C. Documents from F. W. Dawkes, borough engineer and surveyor, Newnham House, Horne Lane, Bedford. Deposit £2 2s. Tenders by June 30.

\***Bedfordshire.**—Barton-in-the-Clay diversion for C.C. Deposit £2 2s. Tenders by July 7.

\***Birmingham.**—Maintenance of joints in concrete-finished carriageways in various roads for City Council. Documents from the office of Sir Herbert J. Manzoni, city engineer and surveyor, Baskerville House, Civic Centre, Birmingham, 1. Deposit £2 2s. Tenders by July 5.

\***Bournemouth, Hants.**—Roads and sewers, Turbary Common development for B.C. Deposit £1 1s. Tenders by July 7.

\***Buckinghamshire.**—Making-up of Meadow Way, Dorney, for C.C. Deposit £2. Tenders by July 10.

\***Buxton, Derbys.**—Construction of approximately 3,604 sq. yd. of carriageway and 650 lin. yd. of sewers on section 3 of the Victoria Park estate for B.C. Documents from the Borough Engineer, Town Hall, Buxton. Deposit £2 2s. Tenders by July 6.

\***Carlisle, Cumb.**—Surface dressing programme, 1961, for City Council. Tenders by July 3.

\***Carmarthenshire.**—Pontardulais—Cross Hands trunk road, A.48. Excavation works north of Pont Abraham, near Pontardulais, for C.C., including the excavation by mechanical plant of approximately 5,700 cu. yd. of material. The material excavated to be hauled and deposited on a site to be found by the contractor. Documents from J. L. Richards, county engineer and surveyor, Roads and Bridges Department, County Hall, Carmarthen. Deposit £2. Tenders by July 4.

\***Chapel-en-le-Frith, Derbys.**—Site preparation for 13 houses involving approximately 605 super. yd. excavation, foundation work and base course to highway, 190 lin. yd. kerbing and ancillary works, and kerbing and surfacing of approximately 150 super. yd. carriageway, for R.D.C. Documents from the office of the Engineer and Surveyor, Council Offices, Hayfield Road, Chapel-en-le-Frith, via Stockport. Deposit £2 2s. Tenders by July 1.

\***Chatham, Kent.**—Making-up of Watson Avenue—stage 2 for B.C. Deposit £2 2s. Tenders by July 7.

\***Cheadle and Gately, Ches.**—Making-up of Heathbank Road (part), Cheadle Hulme, for U.D.C. Documents from the Engineer and Surveyor, Town Hall, Cheadle. Deposit £2 2s. Tenders by July 12.

\***Chelmsford, Essex.**—New livestock market, phase II development, for B.C., including the

following sub-contract: Construction of approximately 31½ lin. yd. of foul water drainage, including manholes, straw interceptors, and reinforced concrete bed and surround; approximately 2,700 sq. yd. reinforced concrete floors, walls, erection of tubular steel pinnage and gates, together with all ancillary works. Documents from the office of the Borough Engineer and Surveyor, Coval Lane, Chelmsford. Deposit £2 2s. Tenders by July 7.

\***Chertsey, Surrey.**—Surfacing roads, Bracken-dene caravan park, for U.D.C. Deposit £1 1s. Tenders by July 7.

\***Chester.**—Improvement of Station View for City Council. Tenders by July 8.

\***Chesterfield, Derbys.**—Spital Lane improvement for B.C. Deposit £2 2s. Tenders by July 6.

\***Chigwell, Essex.**—Corner Cottage bend improvement, Vicarage Lane, for U.D.C. Deposit £2 2s. Tenders by July 14.

\***Derbyshire.**—Widening works on Whaley Bridge, Sheffield Road A.625, for C.C. Deposit £5. Tenders by July 17.

\***Derbyshire.**—Dismantling of Walton Bridge, for C.C. Tenders by July 19.

\***Doncaster, Yorks.**—Following work on the caravan site, Mere Lane, Armthorpe, which is being developed to accommodate 35 caravans, for R.D.C.; Contract 383—site works. This contract includes the laying of approximately 400 lin. yds. of 4in. and 6in. sewers, the construction of approximately 700 sq. yd. of tarmac access road, approximately 460 sq. yd. of flagged footpaths and approximately 770 sq. yd. of 4in. thick concrete slab for caravan standings together with other appurtenant works; contract 384—sanitary accommodation. This contract covers the construction of a brick building to accommodate toilet and laundry facilities for the tenants of the caravan site. Documents from the Surveyor, Nether Hall, Doncaster. Tenders by July 14.

\***Dorking, Surrey.**—Roads and sewers at Goodwyns estate, contract 8, for U.D.C. Tenders by July 11.

\***Dumfries.**—Construction of inner ring road: Proposed extension of Lochfield Road for B.C. The work involves the construction of approximately 280 lin. yd. of roadway and fencing, and other incidental works. Applications to the Burgh Surveyor, Municipal Chambers, Dumfries. Tenders by June 30.

\***Durham.**—Asphalt surfacing for C.C. Tenders by June 30.

\***East Suffolk.**—Reinstatement of B.1127 at Beccles Airfield for C.C., including the construction of 1½ miles of 18ft. carriageway, part new construction, part reconstruction, of lean concrete granular base with asphalt surfacing; also excavation, piped drainage, and other works. Three months' contract Documents from the County Surveyor, County Hall, Ipswich. Deposit £5. Tenders by July 17.

\***Edinburgh.**—Laying of hot-rolled asphalt for the undermined contract for City Council: Asphalt paving works (phase III), 1961-62. Documents from City Engineer, 329 High Street, Edinburgh. Tenders by July 7.

\***Felixstowe, Suffolk.**—Making-up part of Colneis Road (approximately 690 lin. yd.) for U.D.C. The works comprise surface water sewerage, tarred macadam surfacing, in-situ concrete paving, channelling, and incidental works. Documents from the Engineer and Surveyor, Town Hall, Felixstowe. Deposit £2 2s. Tenders by July 7.

\***Hampshire.**—Reconstruction of Black Bridge, Romsey, for C.C. Applications by June 26.

\***Hitchin, Herts.**—Construction of a car park behind Skynner's Almshouses for U.D.C. The work involves site excavation and clearance, provision of a hardstanding of approximately 2,500 sq. yd. formed of 8in. hogg, together with incidental drainage works, fencing and minor works of rebuilding and adaptation at the entrance way north of the almshouses. Documents from the Surveyor, Council Offices, Brand Street, Hitchin. Deposit £3 3s. Tenders by July 7.

\***Hornsey, Middx.**—Paving and kerbing for the 12 months commencing Aug. 1, 1961, for B.C. Documents from the Borough Engineer, Town Hall, Hornsey. Tenders by July 5.

\***Huddersfield, Yorks.**—Making-up of Waverley Road, Marsh, and Gernhill Avenue (part). Fixby, for B.C. Documents from A. L. Percy, borough engineer and surveyor, High Street Buildings, Huddersfield. Deposit £1 1s. Tenders by July 3.

\***Hyde, Ches.**—Making-up of Slateacre Road for B.C. Tenders by June 30.

\***Inverness-shire.**—Construction of the East Gerinish township road, 2½ miles long, in South Uist, for C.C. Documents from the County Surveyor, County Buildings, Ardross Street, Inverness. Tenders by July 10.

\***Kesteven.**—Great North Road, motorway type signs, for C.C. Supply and erection of the following: (1) Motorway type signs, etc.; (2) reinforced concrete supports, etc., for (1);

(3) sign lighting units to motorway type signs. Documents from the County Surveyor, County Offices, Slough, Lincs. Deposit £10. Tenders by July 8.

**Leicester.**—Scraptoft Lane widening, for City Council, including the following: (a) Setting back approximately 2,900 lin. yd. of existing kerb and widening approximately 5,300 sq. yd. of existing carriageway; (b) reconstruction of approximately 9,200 sq. yd. of footways; (c) accommodation works in adjoining property; (d) incidental sewerage works and alterations to G.P.O. plant. Documents from John L. Beckett, city surveyor, Town Hall, Leicester. Deposit £1 ls. Tenders by June 30.

**Leyland, Lancs.**—Carting of materials to and the surface dressing of approximately 57,400 sq. yd. of carriageway with refined tar and chippings, 1961-62, for U.D.C. Documents from F. D. Howe, engineer and surveyor, Council Offices, Leyland. Deposit £2 2s. (cheques payable to the Council). Tenders by June 30.

**Lindsey.**—Improvement at Scrub Holt, Lacey (a) and (b) for C.C. Deposit £5 each set. Tenders by July 14.

**Llanelli, Carm.**—Roadworks at Park Crescent and Regal Road, Llanelli, which work comprises the making-up of Park Crescent and construction of a traffic roundabout at Regal Road for B.C. Documents from A. B. Richards, borough engineer and surveyor, Town Hall, Llanelli. Deposit £2 2s. Tenders by July 1.

**London.**—Reconstruction of road bridge over the River Lee at Temple Mills, Hackney, for C.C. Documents from the Chief Engineer (B/C/1718/6), County Hall, Westminster Bridge, S.E.1. Deposit £10, cheque payable to C.C. Tenders by July 17.

**London.**—Widening of Brompton Road, Westminster, from Hans Crescent to Lancelot Place, for C.C. Documents from the Chief Engineer (B/C/1713/6), County Hall, Westminster Bridge, S.E.1. Deposit £3, cheque payable to C.C. Tenders by July 10.

**Luton, Beds.**—Roads and sewers, stage 5, Lewsey Farm estate, for B.C. Deposit £2 2s. Tenders by July 13.

**Macclesfield, Ches.**—Following for R.D.C.: (a) Roadworks at Robin Close, Chelford; (b) surfacing road at Butley Lanes, Presbury; and (c) road and sewage works at Lakeside, Bosley. Documents from the offices of the Engineer and Surveyor, Council Offices, King Edward Street, Macclesfield. Deposit £2 each. Tenders by July 10.

**Mynyddislwyn, Mon.**—Reconstruction of approximately 6,700 super. yd. of carriageway by grouting with cold bitumen emulsion, surface dressing with hot tar and limestone chippings, and other ancillary works at Argoe-Penderri Road for U.D.C. Documents from the Engineer and Surveyor, Council Offices, Pontllanfraith, Blackwood, Mon. Deposit £3 3s. Tenders by July 10.

**Neath, Glam.**—Reconstruction and widening of four bridge spans over the railway at Shelone Road, Briton Ferry, together with widening and regrading of approach roads and junctions, for B.C. The work involves removal of one steel deck, extensions of existing abutments, and the laying of prestressed precast concrete beams for the new decks. Road works include kerbing, footpath works and hot-rolled asphalt surfacing. Documents from the Borough Engineer, Gwyn Hall, Neath. Deposit £2 2s. Tenders by July 15.

**Nottingham.**—Construction of roads and sewers at the Bestwood Park housing estate, Oxclose Lane, for City Council. Documents from the City Engineer, The Guildhall, Nottingham. Deposit £2. Tenders by July 18.

**Peterborough.**—School playground construction (approximately 750 sq. yd.) and resurfacing in hot rolled asphalt (approximately 2,500 sq. yd.) for the Joint Education Board. Documents from the Surveyor to the Joint Education Board, Town Hall, Peterborough. Deposit £2. Tenders by July 5.

**Potters Bar, Middx.**—Surfacing of district roads with cold asphalt, including resealing joints in concrete carriageways, and incidental works. The area is approximately 12,940 sq. yd. and the work is to be carried out by machine, for U.D.C. Documents from the office of the Engineer and Surveyor, Wyllyouas Manor, Darkes Lane, Potters Bar. Deposit £2 2s. Tenders by July 6.

**Reading, Berks.**—Construction of 1,300 sq. yd. (approximately) carriageway for two footways, with surface water sewers and gully connections, at Ilkley Road, Caversham, for B.C. Documents from Borough Surveyor's Office (P.O. Box 17), Town Hall, Reading. Deposit £2 2s., cheque payable to Corporation. Tenders by July 10.

**Reading, Berks.**—Roads and sewers, Bulmershe, Woodley housing estate, for B.C. Deposit £2 2s. Tenders by July 17.

**Rushden, Northants.**—Works at Grafton Road, for U.D.C., involving approximately 1,100 sq. yd. of slab paving, etc., and 175 sq.

yd. of roadworks. Documents from the Engineer and Surveyor, Council Buildings, Rushden. Tenders by June 30.

**Shoreham-by-Sea, Sussex.**—Making-up Ravensbourne Avenue, for U.D.C. Tenders by June 29.

**Solihull, War.**—Improvement of Prospect Lane for B.C. Tenders by July 7.

**South Shields, Dur.**—Baldon Lane realignment for B.C., involving the construction of approximately 600 yd. length of new road of 66 ft. overall width, together with a 140 ft. diameter roundabout. The work includes approximately 6,000 cu. yd. of earthworks, 1,300 lin. yd. of 6 in.-12 in. diameter sewers, and 9,700 sq. yd. of bituminous surfacing and ancillary works. Documents from the Borough Engineer, Town Hall, South Shields. Deposit £5 5s. Tenders by July 20.

**Stratford-upon-Avon, War.**—Advance preparation of Moreton Morrell housing site, stage 3, for B.C. Deposit £2 2s. Tenders by July 20.

**Sunderland, Dur.**—Following for B.C.: (a) Construction of a new road—Commercial Road to Gray Road—comprising approximately 5,500 sq. yd. of 8 in. reinforced concrete road with 3 in. bituminous macadam; 260 yd. of 21 in. diameter reinforced concrete tube sewer in trench and 166 yd. of 33 in. diameter reinforced concrete tube sewer in trench and tunnel; (b) sewer works—The Royalty to Hind Street—comprising 335 lin. yd. of 24 in. and 27 in. diameter reinforced concrete tubes in tunnel, 65 lin. yd. of 27 in. reinforced concrete tube in trench, six manholes average depth 23 ft. to invert. Documents from the Borough Engineer, 27 Fawcett Street, Sunderland. Deposit £2 2s. Tenders by July 5.

**Thedwastre, Suffolk.**—Construction of roads, footpaths and surface water drainage at Thedwastre Close housing estate, Elmswell, for R.D.C. The contract consists of approximately 450 sq. yd. of footpaths, 980 sq. yd. of carriageway, and surface water drainage. Documents from the offices of Mitchell, Weston and Clayton Smith, architects, 38 Churchgate Street, Bury St. Edmunds. Tenders by July 4.

**Thornton Cleveleys, Lancs.**—Making-up of Smith Road, for U.D.C. Documents from J. E. Porter, engineer and surveyor, Council Offices, Thornton Cleveleys, Blackpool. Deposit £2 2s. Tenders by July 11.

**Tyrone.**—Major improvement work on route A.505, Omagh-Mountfield Road, at Killyclogher, near Omagh, for C.C. Documents from County Surveyor's Office, 26 John Street, Omagh. Tenders by July 13.

**Weston-super-Mare, Som.**—Private street works at (1) Leewood Road, (2) Mendip Avenue, (3) Salisbury Road, (4) St. Austell Road, (5) Woodview Terrace for B.C., comprising kerbing, channelling, concrete flag paving (approximately 1,400 sq. yd.), tarmacadam surfacing to roadway (approximately 3,300 sq. yd.) and other incidental works. Documents from the Borough Engineer and Surveyor, Town Hall, Weston-super-Mare. Deposit £2. Tenders by July 4.

**Willesden, Middx.**—Resurfacing of Dudden Hill Lane (part) for B.C. Deposit £2 2s. Tenders by July 18.

**Wilmslow, Ches.**—Making up of Holly Road (part of), for U.D.C., involving approximately 70 yd. of kerb and channel, 450 sq. yd. of carriageway shaping and surfacing footway, and appurtenant drainage works. Documents from the office of A. J. Riley, engineer and surveyor, Council Offices, Green Hall, Wilmslow. Deposit £2 2s. Tenders by July 21.

**Witney, Oxon.**—Reconstruction of Dark Lane for U.D.C., including 4,200 sq. yd. of tarmacadam/stone carriageway and 1,830 sq. yd. of in-situ concrete footpaths, together with 1,400 lin. yd. of kerbing and 817 lin. yd. of 6 in., 9 in. and 12 in. surface water sewers, 556 lin. yd. of 4 in. cast-iron water mains, and ancillary works. Documents from the offices of the Engineer and Surveyor, 26 Church Green, Witney. Deposit £2 2s. Tenders by July 19.

**Wokingham, Berks.**—Improvement works to minor roads, for B.C. Details may be obtained from the Borough Surveyor, Town Hall, Wokingham. Tenders by July 7.

**Wokingham, Berks.**—Road and sewer works as follows, for B.C.: Langborough Road—reconstruction; Waterloo Road—surface water sewers. Documents from the Borough Surveyor, Town Hall, Wokingham. Tenders by July 3.

**Wrexham, Denbighs.**—Construction of bus draw-in and service road for B.C. Deposit £2 2s. Tenders by July 6.

**York.**—The Groves redevelopment—contract 7, for City Council. Deposit £2. Tenders by July 11.

#### SEWERAGE, SEWAGE AND REFUSE DISPOSAL

**Barrow-upon-Soar, Leics.**—Laying sewer at Ratcliffe for R.D.C. Deposit £2 2s. Tenders by July 17.

**Bexley, Kent.**—Surface water sewer works for B.C. Deposit £2 2s. Tenders by July 10.

**Birmingham.**—Speedwell Road relief sewer, Hay Mills, for City Council. Deposit £2 2s. Tenders by July 12.

**Birmingham.**—Yardley to Tyburn main sewer—contract 1, for Birmingham Tame and Rea Drainage Board. Tenders by June 26.

**Cheshire.**—Leek-Macclesfield trunk road A.523, repairs to Whitmoor Culvert, for C.C., involving the driving of a heading under the road from the downstream end of the culvert removing the existing dry stone culvert as the work proceeds, removing an obstruction blocking the culvert; and laying and jointing 30 in. concrete pipes as the heading is backfilled with concrete together with ancillary buttress works. Documents from C. G. Day, county surveyor, County Surveyor's Department, Backford Hall, near Chester. Tenders by July 4.

**Downpatrick, Down.**—Supply and installation of the following plant and equipment, Dundrum sewerage scheme, for R.D.C.: (a) Handstops, valves, screens, dosing syphon and percolating filter distributors; (b) one electrically driven lift and force pump, together with switchgear; (c) two electrically driven, vertical spindle centrifugal pumps, together with no-flote controls and switchgear. Documents from Munce and Kennedy, engineers, 133 University Street, Belfast, 7. Tenders by July 3.

**East Ashford, Kent.**—Wye, Hamstreet and Chilham sewerage and sewage disposal scheme for R.D.C., comprising the construction of three sewage disposal works, consisting of sedimentation tanks, percolating filters, humus tanks, sludge drying beds and other appurtenant works; three pumping stations; spun-iron and asbestos-cement rising mains and laying of about 2,000 yd. of 9 in., 7 in., 6 in. and 4 in. sewers and house drain connections. Documents from the Engineer, 8 Elwick Road, Ashford. Deposit £5 (cheques payable to the Council).

**Gipping, Suffolk.**—Stonham aspal sewerage and sewage disposal, for R.D.C. Deposit £5 5s. Tenders by July 21.

**Hinckley, Leics.**—Sewage pumping station and rising main at Coventry Road industrial development site, contract 2, for U.D.C. Deposit £2. Tenders by July 14.

**Knutsford, Ches.**—Laying of some 3,300 yd. of 27 in. to 12 in. diameter concrete, cast-iron and steel pipe sewers, and 270 yd. of 6 in. cast-iron rising main, together with the construction of manholes and storm water overflows, contract 1, for U.D.C. Documents from Arnold Brooksbank and Son, consulting engineers, 48 Sundridge Road, Bradford, 1. Deposit £5 5s., cheque payable to U.D.C. Tenders by July 11.

**Ledbury, Herecs.**—Construction of approximately 2½ miles of 30 in. to 6 in. diameter concrete and glazed stoneware pipe sewers, together with concrete tube manholes, sewage pumping station, ejector station and approximately 800 yd. 9 in. and 4 in. diameter iron rising main, and sewage disposal works comprising detritus tanks, settling tanks, bacterial filters, humus tanks, sludge drying beds, sludge pumping station, and other incidental works, contract 1 for U.D.C. Documents from Wilcox, Raikes and Marshall, consulting engineers, 33 Great Charles Street, Birmingham, 3. Deposit £10 10s. Tenders by July 17.

**Leeds.**—Construction of new soil and surface water sewers, manholes, gully branches, and street gullies in proposed estate roads on the Iveson House Light Industrial estate, Ring Road, West Park, for City Council. Applications to Room 75 Civic Hall, Leeds 1. Deposit £3 3s. Tenders by July 7.

**Lytham St. Annes, Lancs.**—Manufacture, supply and erection of two vertical unchokeable sewage pumps, motors, starters, and ancillary equipment, to replace two existing pumps at 1 pumping station, for B.C. The pumps shall each be capable of a duty of 3,500 gallons per minute against a total head of approximately 19 ft. (11 ft. static). Documents from the Borough Engineer and Surveyor, Town Hall, Lytham St. Annes. Tenders by August 1.

**Maidstone, Kent.**—Aylesford sewage disposal works, for B.C. Deposit £5 5s. Tenders by July 24.

**Monmouthshire.**—Diversion of trunk sewer at Llanhilleth, for Western Valleys Sewerage Board. The work comprises the laying of approximately 500 lin. yd. of 36 in. diameter spun concrete and cast iron conduit with reinforced concrete and precast concrete manholes. The cast iron conduit is to be laid in the crossing of the River Ebbw and two subsidiary sewers (6 in. and 9 in. diameter) have to be extended and connected into the diverted trunk sewer. Documents from the office of Percy Beard, the board's engineer, Midland Bank Chambers, Bridge Street, Newport, Mon. Deposit £3 3s. Tenders by July 14.

**Penbont, Glam.**—Following schemes for R.D.C.: (1) Siteworks extension, Coytrahen—the construction of approximately 3,604 super.



yd. of roadworks and approximately 445 lin. yd. of surface water sewers; (2) Penyal site-works, Penyal—the construction of approximately 2,990 super. yd. of roadworks and approximately 664 lin. yd. of 6in. surface water sewers; (3) Derlwyn Hill siteworks, Tondy—the construction of approximately 3,474 super. yd. of roadworks and approximately 740 lin. yd. of 6in. and 9in. soil and surface water sewers; (4) Hall Farm siteworks No. 2, North Cornelly—the construction of approximately 2,740 super. yd. of roadworks and approximately 30yd. of 6in. land drains. Documents from the office of the Engineer and Surveyor, Penybont Offices, Coity Road, Bridgend, Glam. Deposit £2 2s. Tenders by June 22.

**Petersfield, Hants.**—Greatham sewerage scheme for R.D.C., consisting of approximately 975 lin. yd. of 6in. diameter concrete pipe sewers with flexible joints; 14 concrete tube manholes; the construction of a pumping station (mainly superstructure, and incidental works, including fencing, laterals, and alterations to sewers at Bakersfield. Documents from the office of the Engineer and Surveyor, The Old College, Petersfield. Deposit £5. Tenders by July 12.

**South-East Derbyshire.**—Alvaston and Boulton sewerage and Stocker Flat sewerage for R.D.C., which comprise the following: (1) Foul water sewers—6in., 9in. and 12in. diameter; salt glazed ware, approximately 1,450 lin. yd., complete with brick and precast concrete manholes; (2) combined sewers—36in. to 54in. diameter, spun concrete, approximately 1,300 lin. yd., complete with brick manholes; (3) storm water overflow chamber—a brick and concrete chamber with mechanically raked screens, and ancillary works; (4) pumping station—an automatic pumping station with wet and dry wells of mass concrete and brick superstructure to house four electrically driven centrifugal pumps, control gear, etc., 170 lin. yd. of 8in. diameter rising main; (5) ejector station—a small automatic ejector station of mass concrete and brick construction, housing two ejectors, control gear, etc., 280 lin. yd. of 4in. diameter rising main; (6) surface water sewer and re-grading of watercourse; 36in. and 48in. spun concrete, approximately 700 lin. yd., complete with brick manholes, etc.; re-grading and deepening existing watercourse, approximately 1,300 lin. yd.; (7) the restoration of surfaces and the maintenance of the works for a period of 12 months. Documents from Sir Herbert Humphries and McDonald, consulting engineers, Park Chambers, 276 Monument Road, Edgbaston, Birmingham, 16. Deposit £10 10s., cheques payable to R.D.C. Plans also seen at the office of the Senior Public Health Inspector to the Rural District Council, Council Offices, St. Mary's Gate, Derby. Tenders by July 10.

**\*Stroud, Glos.**—Stanley Downton sewage disposal works extension scheme for Stroud and District Sewerage and Composting Joint Committee. Submit names by June 30.

**Swale, Kent.**—Improvement to Teynham S.D. works, for R.D.C., comprising the construction of a pumping station and an additional stormwater tank; the modification of an existing sedimentation tank inlet; alterations to the existing screening and overflow arrangements; the renewal of the distributors to the filter beds and the construction of a dosing chamber; the laying of 800yd. of 4in. diameter asbestos-cement pipe rising mains; together with fencing, drains, pipework, and other ancillary work. Applications to H. D. Hargreaves, engineer and surveyor, Whitehall, 48/50 Bell Road, Sittingbourne, Kent, with the names of three engineers for whom similar work has been carried out. Deposit £5 5s. Tenders by July 13.

**Wirral, Ches.**—Construction of approximately 7,350 sq. ft. of steel sheet piling retaining wall and approximately 420 lin. ft. of concrete capping at Heswall, contract 2, for U.D.C. Documents from John H. Haiste and Partners, consulting engineers, Belmont House, 20 Wood Lane, Hadingley, Leeds, 6. Deposit £3 3s., cheque payable to U.D.C. Tenders by July 7.

**\*Worthing, Sussex.**—Cleaning of main sewer for B.C. Deposit £2 2s. Tenders by July 11.

#### STREET LIGHTING

**Ashton-in-Makerfield, Lancs.**—Supply and delivery of concrete columns and equipment for 187 group B mercury vapour discharge lighting units for U.D.C. Documents from the Surveyor, Town Hall, Ashton-in-Makerfield. Tenders by July 7.

**Bentley, Essex.**—Installation of 99 group B lighting units in Kenneth Road and Hart Road, Thundersley, and Rectory Road and Daws Heath Road, Hadleigh, for U.D.C. Applications to the Engineer and Surveyor, Council Offices, Thundersley, by June 26. Deposit £1.

**Berkhamsted, Herts.**—Construction of footpaths, verges, and the erection of street lamps

on the Westfield estate, for U.D.C. Documents from the Engineer and Surveyor, Civic Centre, Berkhamsted. Deposit £2 2s. Tenders by July 11.

**\*Brownhills, Staffs.**—Group A lighting schemes, for U.D.C. Deposit £2 2s. Tenders by July 3.

**\*Camberwell.**—Substitution of 152 units of sodium for mercury lighting for B.C. Tenders by June 30.

**Frinton and Walton, Essex.**—Supply and erection of 37 installations comprising concrete columns with side-entry colour corrected mercury lanterns at Walton-on-the-Naze for U.D.C. Documents from the Engineer and Surveyor, The Council House, Frinton-on-Sea. Tenders by July 11.

**\*Rochester, Kent.**—Conversion scheme—stage II for City Council. Deposit £2 2s. Tenders by July 15.

**Sandbach, Ches.**—Installation of 34 concrete lamp columns and lanterns, and six bracket arms and lanterns of class B standard, in various streets, for U.D.C. Documents from H. J. Rees, engineer and surveyor, Council Offices, Crewe Road, Sandbach. Tenders by July 3.

**Thornaby-on-Tees, Yorks.**—Supply of equipment for group A and group B lighting. Approximately 600 units are involved, including mercury vapour and sodium discharge lamps, for B.C. Documents from the Borough Engineer, Town Hall, Thornaby-on-Tees. Tenders by June 29.

**Tipton, Staffs.**—Supply and installation of 79 class B lighting standards on certain roads, for B.C. Documents from the Borough Engineer and Surveyor, Municipal Buildings Sedgley Road West, Tipton. Deposit £2 2s., cheque payable to Corporation. Tenders by July 5.

## AWARDS

### BUILDING AND DECORATING (See also Housing Schemes)

**Action, Middx.**—Erection of eight garages at Beech Avenue, five at Maple Avenue, five at Esmond/Ramillies Roads and one adjoining Birch Grove for B.C.—Cumberland and King, Ltd., 174 Bollo Bridge Road, London, W.3, £1,468, £755, £727 and £190, respectively (recommended, subject to Ministry approval).

**Aylesbury, Bucks.**—Provision of 22 additional garages at Convent Road estate for B.C.—Drabble Construction, Ltd., Cannon Street, Wellingborough, Northants, £2,113 (recommended).

**Bangor, Caerns.**—Erection of a new refectory at the University College of North Wales—Pochin (Contractors), Ltd., King Street Works, Middlewich, estimated cost £120,000. Sir Percy Thomas and Son, architects, 10 Cathedral Road, Cardiff, and W. T. Hills, quantity surveyor, 3 Castle Street, Cardiff. Work expected to commence next month.

**Barnsley, Yorks.**—Supply and fixing precast concrete units in connection with St. Helens Secondary Modern School for B.C.—Concrete (Northern), Ltd., Stourton, Leeds, 10, £5,474 (recommended).

**Blackpool, Lancs.**—Following for the Fylde Water Board: Supply and erection at Coleridge Road Depot new office and stores building (contract 115)—steel roller shutters, lattice gates, etc.; (contract 116)—goods/passenger lift—Roller Shutters, Ltd., Birmingham. Work commencing Sept.

Building work of a booster station at Laund Wood, near Whitewell, Yorkshire (W.R.)—J. Mansergh and Son, Rathmell, near Settle, Yorks. Work commencing July.

**Brigg, Lincs.**—Supply and erection of steel chimney at Glanford Hospital for Sheffield Regional Hospital Board—George E. Tupholme and Co., Ltd., Carwood Road, Sheffield, 4, £1,009.

**Bristol.**—Erection of new headquarters in Whitehouse Street, Bedminster, for Creech and Co. Development—Wilkins and Coventry, Ltd., 91 Cumberland Road, Bristol, 1. Estimated cost £30,000. W. H. Watkins, Gray and Partners, architects, 8 Colston Avenue; Faithful and Gould, quantity surveyors, 1 Pipe Lane; and Clarke, Nicholls and Marcel, consulting engineers, Berkeley Cottage, Berkeley Square, Bristol, 8.

**Bristol.**—Improvements and repairs to the following properties for City Council: 21 Windsor Terrace, Totterdown, and 6 Clyde Road, Knowle—Parsons and Sims, Ltd., 25 Lion Street, Stapleton Road, Bristol, 5, £1,200 and £1,199, respectively; 44 Hamilton Road, Southville—R. F. Byne, 540 Kensington Hill, Bristol, 4, £989; 33 Warden Road, Bedminster—G. Westcott and Co., 42 Dominion Road, Fishponds, Bristol, £1,051 (recommended).

**Burnley, Lancs.**—Erection of a new bank in Manchester Road for Martins Bank, Ltd.—Howarth Construction Co., Ltd., Trafalgar Street, Burnley. Work commencing in July.

**Bury St. Edmunds, Suffolk.**—Erection of a nurses' home at West Suffolk General Hospital, for East Anglian Regional Hospital Board—Bright Bros. (Tuddenham), Ltd., Mildenhall, £85,160.

**Camberwell.**—Improvements at Honor Oak Secondary School for Girls for L.C.C.—Thomas and Edge, Ltd., 52 Macbean Street, London, S.E.18, £60,066 (accepted); C. P. Roberts and Co., Ltd., £60,682; W. J. Marston and Son, Ltd., £60,926; Henry Kent (Builders), Ltd., £62,279; H. M. Howard (Mitcham), Ltd., £62,700; S. G. and A. Agombar, £62,962; Truett and Steel, Ltd., £63,100; E. J. Lacy and Co., Ltd., £64,621.

**Cardiff.**—Provision of approximately 180 17in. diameter Vibro Cast-in-Place piles at new nail factory, Tremorfa, for Guest, Keen and Nettlefolds, Ltd.—Davies, Middleton and Davies, Ltd., Phoenix Works, Caerphilly Road, Cardiff. Work commenced.

**Castleford, Yorks.**—Secondary school and caretaker's house for West Riding C.C. A. W. Glover, county architect, F. Shepherd and Son, Ltd., Blue Bridge Lane, York, £230,000.

**Cavan, Eire.**—Erection of a new factory extension and ancillary works at Cootehill, Co. Cavan, for Cloth Manufacturers, Ltd., Niall O'Kelly, quantity surveyor, 133 Lower Campbell Street, Dublin—R. J. Campbell (Builders), Ltd., Riverview Works, Ringsend, Dublin, 4, £87,271.

**Chancetonbury, Sussex.**—Improvements to 1-22 The Moat, Pulborough, for R.D.C.—W. Allfrey and Sons, Ltd., 41 Lower Street, Pulborough, £9,332 (subject to Ministry approval).

**Cheltenham, Glos.**—Following for B.C.: External painting of dwellings during 1961—162 at Whaddon—Alfred Bagnall and Sons, 146 West Street, Bristol, 3, £3,626; 87 at St. Peter's and 291 at St. Mark's—Ford and Weston, Ltd., 34 Imperial Square, Cheltenham, £1,337 and £6,971, respectively (recommended).

Erection of Hesters Way Branch Library—Ford and Weston, Ltd., £27,027 (recommended, subject to Ministry approval).

**Consett, Dur.**—Erection of nursery accommodation at Richard Murray Hospital, Blackhill, for Newcastle Hospital Board, Fennell and Baddiley, architects, Bridge End Chambers, Chester-le-Street—H. Ayton and Son, Ltd., George Street, Blackhill, £18,997.

**Cumberland.**—Erection of old people's home at Egremont for the C.C. D. W. Dickenson, county architect—Border Engineering Contractors, Ltd., 125 Queen Street, Whitehaven, £53,515.

**Darlington, Dur.**—Erection of the Staindrop Modern School for the C.C. G. W. Gelson, county architect—R. C. Williamson (Durham), Ltd., Rowlands Gill, Co. Durham, £174,027.

Erection of pathological department at Memorial Hospital for Newcastle Regional Hospital Board, P. H. Knighton, board's chief architect—W. Thompson (Contractors), Ltd., North End, Northallerton, £55,942.

**Daventry, Northants.**—Removal of combination gates and the installation of 51 tiled surround fireplaces in houses in the parishes of Braunston, Barby, Kilsby, Crick, Yelvertoft, West Haddon, Watford, and Long Buckby for R.D.C.—R. E. Lewis (Builders), Ltd., Northampton, £1,797 (recommended).

**Deptford.**—Rebuilding primary school at Trundley's Road for L.C.C.—Stewart and Partners, Ltd., 105 Baker Street, London, W.1, £68,300 (accepted); H. T. Oliver and Sons, Ltd., £70,105; J. Jarvis and Sons, Ltd., £70,450; W. J. Marston and Son, Ltd., £72,359; Thomas and Edge, Ltd., £81,900; Henry Kent (Builders), Ltd., £83,609; R. Durnell and Son, Ltd., £85,601; Marshall-Andrew and Co., Ltd., £86,616.

**Doncaster, Yorks.**—First phase of an extension at Baxtergate for Marks and Spencer, Ltd.—Bovis, Ltd., 1 Stanhope Gate, London, W.1 Estimated cost £250,000. Work to start almost immediately.

**Ellesmere Port, Ches.**—Following for B.C. Cecil W. Davies, engineer and surveyor: External redecoration of 188 Wates concrete houses—John Davies, Ellesmere Port, £7,367 (accepted); Decorators (Liverpool), Ltd., £10,865; Brooker, Ltd., £16,017. Work commenced.

Erection of nine lock-up garages, ancillary works and site works at Gawsorth Road—E. B. J. Gould, Ltd., Cromwell Road, Ellesmere Port, £2,334 (accepted); T. Warrington and Sons, Ltd., £3,701 Work commenced.

**Fulbourn, Cambs.**—Construction of two therapeutic workshops at Fulbourn Hospital, for the East Anglian Regional Hospital Board—



- R. Thompson (Cherry Hinton), Ltd., High Street, Cherry Hinton, Cambridge, £7,489 (recommended).
- Halesworth, Suffolk.**—Construction of a recreation hall at Risbridge Home, Kedington, for the East Anglian Regional Hospital Board—Slater Bros. (Glemsford), Ltd., Glemsford, Sudbury, £8,034 (recommended).
- Harlow, Essex.**—Erection of four three-storey blocks, comprising shops, showrooms, banking hall and restaurant in the town centre, and a housing manager's depot at Wych Elm, for the Development Corporation—Kirk and Kirk, Ltd., Atlas Works, 287 Upper Richmond Road, London, S.W.15, £266,036 and £22,000, respectively. Work about to commence.
- Hastings, Sussex.**—Following for B.C.: Construction of two additional classrooms with cloakroom accommodation at St. Paul's C. of E. School—Joseph Cartwright, Ltd., 9 Streatham High Road, London, S.W.16, £6,103. Caston and Porritt, 17 Havelock Road, Hastings, are the quantity surveyors for the scheme. Erection of 148 prefabricated garages at various housing estates—Bell and Webster, Ltd., Essex Road, Hoddesdon, Herts., £8,153 (recommended, subject to Ministry approval).
- Hebburn, Dur.**—Erection of a new British Legion Club. J. M. Angus, architect, 3 Gallowgate, Newcastle upon Tyne—R. W. Bell and Co., Mistletree Road, Jesmond, Newcastle upon Tyne, £40,000. Work commenced.
- High Wycombe, Bucks.**—Following for B.C.: Provision of temporary office accommodation at the rear of the Municipal Offices—Swift Plan, Ltd., 39 Victoria Street, London, S.W.1, £7,239; external re-painting of 166 houses at Hatters Farm and Mickfield Road, section 8 (28) and 13 (30)—R. Cooper, 4 Clifton Terrace, Cliftonville, Dorking, Surrey, £445 and £637, respectively; section 10 (46)—H. T. Martin, 52 Wingate Avenue, High Wycombe, £1,012; section 12 (20) and 15 (22)—E. M. Devers, Little Lane, Loosely Row, Princes Risborough, Aylesbury, £530 and £594, respectively; section 14 (20)—J. Izzard and Son, 4 Totteridge Hill, High Wycombe, £560 (recommended).
- Huddersfield, Yorks.**—Erection of public conveniences at Blacker Road, Birkby, for B.C. S. M. Richmond, borough architect—J.B. Construction (Huddersfield), Ltd., 81a King Street, Huddersfield. Work commencing in July.
- Ipswich, Suffolk.**—Provision of sanitary annexe for occupational therapy unit at St. Clement's Hospital, for the East Anglian Regional Hospital Board—Direct Labour, £1,900 (recommended).
- Isle of Ely.**—Alterations to existing buildings at Witchford Secondary School for E.C.—Rooke (Builders), Ltd., 30 West Park Street, Chatteris, £617.
- Jarrow, Dur.**—Additions to Daneshield Maternity Hospital, Bede Burn Road, for Newcastle upon Tyne Regional Hospital Board. Fennell and Baddiley, architects, Bridge End Chambers, Chester-le-Street—Contractors—M. W. Forster, Ltd., Grantham Road, Sunderland, £27,179; mechanical engineering services—G. M. Bilclough, Ltd., Bedford Street, North Shields, £5,842; electrical work—Veale Nixon, Ltd., Saville Row, Newcastle upon Tyne, £2,846.
- Kingsclere and Whitchurch, Hants.**—Construction of public conveniences at Kingsclere for R.D.C. R. A. Over, surveyor—G. Hopkins and Son, Kingsclere, £947 (accepted); W. Meadham and Son, £1,248; Eadres Bros., Ltd., £1,300. Work commencing June 30.
- Lewisham.**—Extension and adaptation at Catford County Secondary School for L.C.C.—Griggs and Son, Ltd., 56 Victoria Street, London, S.W.1, £356,834 (accepted, subject to amendment); Prestige and Co., Ltd., £366,907; Marshall-Andrew and Co., Ltd., £369,509; Galbraith Bros., Ltd., £372,206; Rowley Bros., Ltd., £373,691; W. J. Simms, Sons and Cooke, Ltd., £374,262; Tersons, Ltd., £374,718; A. T. Rowley (London), Ltd., £375,102; Rush and Tompkins, Ltd., £386,583; Kirk and Kirk, Ltd., £399,775; Thomas and Edge, Ltd., £402,374.
- Improvements at Forest Hill School for L.C.C.—William H. Figgis, 68 First Avenue, London, S.W.14, £20,659 (accepted); F. H. Beeching and Son (Keston), Ltd., £21,606; Hotson Bros., Ltd., £22,428; W. R. Oldham, Ltd., £24,250; Marshall-Andrew and Co., Ltd., £24,872; R. H. Lynn and Co., Ltd., £25,722.
- Liverpool.**—Extension at the Old Swan Library for City Council—J. B. Johnson and Co., Ltd., 17 Overton Street, Liverpool, 7, £5,553.
- Middlesbrough, Yorks.**—Erection of old people's hostel at Beechwood for the B.C. J. A. Kenyon, borough engineer—J. Huntley and Son, Marion Street, Sunderland, £56,293.
- Morayshire.**—Construction of a ski-tow at Corrie Crag for Cairngorm Winter Sports Development Board, 43 The Square, Grantown-on-Spey—William Tawse, Ltd., Angusfield, Aberdeen, £36,000.
- North Walsham, Norfolk.**—Repairing the tower of Swafeld Parish Church. B. Feilden, architect, 71a The Close, Norwich—H. Bullen and Son, Ltd., Central Road, Cromer. Estimated cost £1,500. Work commenced.
- Norwich.**—Erection of four shops as the first stage of the £1m. scheme for the redevelopment of St. Stephen Street for the Norwich Union Insurance Societies—R. G. Carter, Ltd., Drayton, Norwich (negotiated tender). G. S. Buckingham and R. O. Bond, architects, St. Faith's House, Mountgate; Phillip Pank and Partners, quantity surveyors, 15 The Close; F. S. Snow and Partners, consulting engineers, 7 Thorpe Road.
- Norwich.**—Erection of central boiler house at Little Plumstead Hospital for the East Anglian Regional Hospital Board—J. Youngs and Son, Ltd., 24 City Road, Norwich, £193,527.
- Nuneaton, War.**—Following for B.C.: Construction of public conveniences at Abbey Green—G. J. Perks, 3 Gipsy Lane, Nuneaton, £2,883; extensions to Swinerton School—G. W. Deeley, Ltd., Torrington Avenue, Tile Hill, Coventry, £58,161; external painting at Higham Lane Primary Schools—W. H. Jones and Son, Ltd., Lockhurst Lane, Coventry, £588; internal painting at Camp Hill County Junior and Red Deeps Schools—W. H. Carter (Nuneaton), Ltd., Trinity Walk, Park Avenue, Nuneaton, £888 and £730, respectively; Attleborough County School and Manor Park School—J. J. Webb, 180 Lindsor Road, Kings Norton, Birmingham, 30, £820, and G. E. and W. Wincott, Ltd., 64 Cotton Road, Nuneaton, £933, respectively (recommended).
- Oldham.**—Alterations and additions to Werneth County Junior and Infants' Schools for B.C. F. Thorpe and Whyman, architects, 9 Barclay's Bank Chambers, Church Lane, Oldham—F. Shepherd and Son, Ltd., Blue Bridge Lane, York, £16,000.
- Ormskirk, Lancs.**—Co. E.C. recommended to purchase land for extensions to the Ormskirk County Secondary School.
- Oxford.**—Following for City Council: Construction of the North Oxford Secondary Modern School—Norman Collison (Contractor), Ltd., London Road, Bicester, £188,197; redecoration of 18 police houses and police headquarters—Hinkins and Frewin, Ltd., Canal Street, Oxford, £586, and Knowles and Son (Oxford), Ltd., 27 Rectory Road, Oxford, £939, respectively (recommended).
- Portsmouth.**—Following for City Council: Alterations and improvements to 11 Alexandra Road—Henry Jones and Son (Portsmouth), Ltd., 35 Adwell Street, Portsmouth, £817 (recommended); T. Coleborn and Son, £968; Ronald William King, £998; G. Winter and Sons, £1,041; James Alec Bell, £1,129; L. V. Evans, £1,152; Bicknells (Southsea), Ltd., £1,168; Ralph W. Bailey, Ltd., £1,174; E. F. Hoy, £1,290.
- Alterations and improvements to 123 Prince Albert Road—Henry Jones and Son (Portsmouth), Ltd., £845 (recommended); T. Coleborn and Son, £962; James Hibberd, £974; Bicknells (Southsea), Ltd., £994; L. V. Evans, £998; Ralph W. Bailey, Ltd., £1,027; G. Winter and Sons, £1,049; E. F. Hoy, £1,057; James Alec Bell, £1,077; Ronald William King, £1,102.
- Modernisation and repairs to the eight flats at Beresford House—Henry Jones and Son (Portsmouth), Ltd., £8,200 (recommended); Barnes and Elliott, Ltd., £8,470; John C. Nicholls, Ltd., £8,700.
- Modernisation and repairs to the eight flats at Emanuel House—Henry Jones and Son (Portsmouth), Ltd., £8,200 (recommended); Barnes and Elliott, Ltd., £8,470; John C. Nicholls, Ltd., £8,700.
- Erection of a prefabricated building for Customs purposes at the Airport—Robert H. Hall and Co. (Kent), Ltd., Paddock Wood, Kent, £2,775.
- Port Talbot, Glam.**—Extensions to the Forth Chemicals petro-chemical plant at Baglan Bay, near Port Talbot for Monsanto Chemicals, Ltd.—Sir Robert McAlpine and Sons (South Wales), Ltd., Lewis Road, Cardiff. Estimated cost £200,000.
- Rochdale, Lancs.**—Erection of new premises at Belfield Road for Mellow Hide Products, Ltd.: Builders—W. H. Ashworth and Son, Ltd., Deepdish, Rochdale; heating and electrical engineers—Henry Tattersall, Ltd., Spotland Bridge, Rochdale; roofing contractors—F. Brown and Son, Ltd., Walkden, Manchester.
- Extensions to Arrow Mill, a branch of Courtalds, Ltd., Queensway—John Laing and Son, Ltd., Dalston Road, Carlisle.
- Estimated cost £400,000. Work just commenced.
- St. Asaph, Flint.**—Restoration of St. Asaph Cathedral for the St. Asaph Diocesan Board of Finance. Roiser and Whitestone, architects, 12 Imperial Square, Cheltenham—W. J. Furze and Co., Ltd., Traffic Street, Nottingham. Work commenced.
- Selby, Yorks.**—Head Post Office, Architect's Department, Ministry of Works—F. Shepherd and Son, Ltd., Blue Bridge Lane, York, £40,000.
- Sheffield.**—Occupational therapy accommodation in spinal injuries' unit at Lodge Moor Hospital for Regional Hospital Board—W. J. Simms, Sons and Cooke, Ltd., Haydn Road, Sherwood, Nottingham, £6,002.
- Southampton.**—Construction of a teaching and dining accommodation block, a single-storey building for dining accommodation and a hostel at the College of Immaculate Conception, and also alterations to the existing building to which the new main teaching block will be connected by two bridges—Kirk and Kirk, Ltd., Atlas Works, 287 Upper Richmond Road, London, £217,404.
- Southport, Lancs.**—Following for B.C.: Supply and erection of a steel-framed structure with Robertsons protected metal cladding at the Canning Road Depot—Sherratt and Smith, Ltd., Fitzwarren Street, Salford, 6, £19,997 (recommended, subject to Ministry approval).
- Internal painting at following schools: St. Teresa's R.C.—T. Threlfall and Son, 37 Sussex Road, Southport, £620; King George V. Stanley Secondary, Technical College and School of Art and Crafts—Woolfall and Rimmer, Ltd., 71 London Street, Southport, £675, £697, £575 and £764, respectively (recommended).
- Stepney.**—Erection of a county secondary school at White Horse Lane, on sites of former Raleigh and Trafalgar Schools, for L.C.C.—J. M. Hill and Sons, Ltd., Heather Park Drive, Wembley, Middx., £383,233 (accepted); Marshall-Andrew and Co., Ltd., £385,562; Rowley Bros., Ltd., £392,540; A. T. Rowley (London), Ltd., £394,326; Bernard Sunley and Sons, Ltd., £395,282; Griggs and Son, Ltd., £395,461; C. Miskin and Sons, Ltd., £397,136; Kirk and Kirk, Ltd., £400,215; Y. J. Lovell (London), Ltd., £401,120; The Demolition and Construction Co., Ltd., £401,930; Galbraith Bros., Ltd., £412,918; Thomas and Edge, Ltd., £416,473.
- Stratford-upon-Avon, War.**—Erection of two retail shops, dry cleaning premises and a showroom at 2 and 3 Henley Street for Sketchley, Ltd.—Coleman and Tyas, Ltd., Bidford-on-Avon, £22,700. Earp, Badger and Harrison, architects, and H. W. King, quantity surveyor, both at Guild Chambers, Scholars Lane, and Alan Marshall and Partners, consulting engineers, Smithfield House, Digbeth, Birmingham.
- Sudbury, Suffolk.**—Construction of mortuary and post-mortem room at Walnuttree Hospital, for the East Anglian Regional Hospital Board—W. B. Kingsbury and Sons, Ltd., Swan Street, Buxford, Suffolk, £8,622 (recommended).
- Sunderland, Dur.**—Erection of single-storey printing works at Robinson Terrace for Thomas Reed and Co., Ltd., 184 High Street West, Sunderland—G. Wimpey and Co., Ltd., Orchard House, Fenwick Terrace, Newcastle upon Tyne.
- Tottenham, Middx.**—Interior redecoration at Devonshire Hill Junior, Devonshire Hill Infants' Downhills Central, Page Green secondary, and exterior redecoration at Rowland Hill Secondary Schools for Co. E.C.—Direct Labour (recommended)—Estimated cost £3,010, £2,050, £3,690, £4,210 and £12,110, respectively.
- West Bromwich, Staffs.**—Erection of a grammar school at Marsh Lane for E.C.—Direct Labour, £378,500.
- Widnes, Lancs.**—Strengthening of existing floors at West Bank County Primary School by the insertion of steel channels alongside the existing wooden beams for B.C.—Direct Labour.
- Worcestershire.**—Construction of Shenstone Teachers' Training College and extensions to Woodrush County Secondary School for C.C.—A. H. Guest, Ltd., Stourbridge, and C. Green and Sons, 16a Maypole Lane, Birmingham, respectively.
- York.**—Grammar School, Fulford, for East Riding C.C. K. F. Giraud, county architect—F. Shepherd and Son, Ltd., Blue Bridge Lane, York, £200,000.

## DEMOLITION

**Ashford, Kent.**—Demolition of two covered reservoirs and a water tower at Barrow Hill Depot for U.D.C.—R. H. Daynes, 2 Howt Green, Bobbing, near Sittingbourne, £68. Work has just commenced.

**Ashton-under-Lyne, Lancs.**—Demolition of properties 166-174 Cotton Street, and 107-109 Welbeck Street, for B.C.—E. Whatmough, Rochdale, £60 (recommended).

**Dewsbury, Yorks.**—Demolition and clearance of site of the Miners' Hostel at Broadway for B.C.—Bailey Bros., Wombwell, to pay the Corporation £300 (recommended).

**Ormeskirk, Lancs.**—Demolition of four air-raid shelters and reinstatement of site at Maghull C. of E. (Controlled) School for C.C.—J. Dearden and Sons (Liverpool), Ltd., £476.

#### ELECTRICAL

**Barnsley, Yorks.**—Modernisation of Town Hall passenger lifts for B.C.—Otis Elevator Co., Ltd., Britannia House, Wellington Street, Leeds, 1, £2,245 per lift (recommended).

**Cheltenham, Glos.**—Electrical installations in 28 dwellings at Mauds Elm and 20 at Griffiths Avenue for B.C.—M. B. Owen, Upton St. Leonards, £916 and £822, respectively (recommended).

**High Wycombe, Bucks.**—Supply and installation of traffic control signals at Bowerdean Cross Roads for B.C.—Automatic Telephone and Electric Co., Ltd., Strouger House, 8 Arundel Street, London, W.C.2, £1,203 (recommended, subject to Ministry approval).

**Larne, Antrim.**—Electrical installation in new municipal offices for B.C.—James Thompson, Upper Main Street, Larne, £3,972 (recommended).

**Leigh, Lancs.**—Re-wiring of electrical installation at Bedford C.E. School and at (Boys') Grammar School for Lancs. C.C.—G. Moss and Sons, Leigh, £1,361, and Marlow Electric Co., Ltd., Manchester, £8,060, respectively.

**Oxford.**—Installation of additional power points and repair and renewal of existing electrical installations in 16 police houses and six police boxes for City Council—Lindars Electrical Contractors (Oxford), Ltd., 2 St. Michael Street, Oxford, £1,027 (recommended).

**Swinton and Pendlebury, Lancs.**—Electrical installation work on The Beehive estate, Clifton (section 3), for B.C.—Wm. Lee, 77 Market Street, Atherton, £3,114 (recommended).

**Tottenham, Middx.**—Re-wiring electrical installation at Bruce Grove Primary School for Co. E.C.—Direct Labour (recommended). Estimated cost £3,465.

#### FENCING

**Acton, Middx.**—Erection of fencing in parks and open spaces for B.C.—Truscott Fencing and Concrete Products, Ltd., Station Road, Dorking, Surrey, £2,637 (recommended).

**Dewsbury, Yorks.**—Supply and erection of 217 single gates on oak gate-posts, 51 wide single gates on oak gate-posts and removal of existing gates at Pilgrim Farm housing estate for B.C.—Direct Labour, £1,620 (recommended).

**Leigh, Lancs.**—Replacement of 239yd. of chain link fencing at Newton Westpark County School for Lancs. C.C.—John Lythgoe, Ltd., Walkden, Manchester, £1,012.

**Southport, Lancs.**—Provision of precast concrete fencing at Meols Cop Secondary School, for B.C.—Bell and Webster, Ltd., Essex Road, Hoddesdon, Herts., £617 (recommended).

#### GAS AND WATER SUPPLY

**Blackpool, Lancs.**—Laund Wood Booster Station: Welded steel air receivers (contract 130) for Fylde Water Board—Quayside Engineering Co., Ltd., Stockton-on-Tees. Work commencing Sept./Oct.

**Blandford, Dorset.**—Pimperne and Moreton Village mains scheme for Poole and East Dorset Water Board. Richard S. Rendle, engineer and manager—Cummins and Morrish, Ltd., 494 Wallisdown Road, Bournemouth, £8,326 (subject to Ministry approval).

**Breconshire.**—Laying of approximately seven miles of small diameter asbestos cement, polythene, and rigid P.V.C. tubing, and ancillary works, for the South-East Breconshire Water Board. A. E. Round, engineer—E. R. Powell (Cwmbran), Ltd., Railway Offices, I.C.I. Works, Cwmbran, Mon., £6,757.

**Bridgwater, Som.**—Construction of a circular reinforced concrete reservoir of 100,000-gallon capacity and having post-stressed walls, together with pipe connections, float valve chamber, and other incidental works, at Puriton, for R.D.C. Lemon and Blizard, consulting engineers, 59 Tufton Street, Westminster, S.W.1—Tilbury Construction Co., Ltd., Roscombe Works, Twyford, Berks., £10,695. Work to commence shortly.

**Cardiff.**—Construction of pipe bridge abutments at Radyr for the Pear Tree to Ely water main crossing over the River Taff for City Council—Davies, Middleton, and

Davies, Ltd., Phoenix Works, Caerphilly Road, Cardiff. Work to commence this month.

**Dorchester.**—Following for B.C.: Construction of a new service reservoir—George Pollard and Co., Ltd., Wood Street, Taunton, £37,214; laying of a 12in. watermain from the reservoir to Bridport Road—Devon Contractors, Ltd., Venny Bridge, Whipton, Exeter, £2,068 (recommended, subject to Ministry approval).

Ancillary works for the new service reservoir—Direct Labour (recommended, subject to Ministry approval). Estimated cost £3,210.

**East Devon.**—Erection of 500,000-gallon reservoir at Rousden for Water Board. J. A. N. McGeoch, chief engineer—Holst and Co., Ltd., 46 Clarendon Road, Watford, £29,695. Work to commence July.

**Forehoe and Henstead, Norfolk.**—Construction of a booster pumping station and ancillary site works at Wicklewood, near Wymondham, contract 2, for R.D.C. Elliott and Brown, consulting engineers, Stanley House, Pelham Road, Nottingham—L. J. E. Bye, Buckenham Road, Attleborough, Norfolk, £6,611 (accepted); F. R. Hipperson and Son, Ltd., £7,625; A. R. King, £7,415; Vibrated Concrete (Construction Co., Ltd., £9,486.

**Middlesbrough, Yorks.**—Laying of 39in. conduit from Sadberge to Longnewton for the Tees Valley and Cleveland Water Board. T. S. R. Winter, board's chief engineer—R. Dodds and Sons, Church Row, Meldonby, £24,870.

**Narberth, Pems.**—Following for R.D.C. Ward, Ashcroft and Parkman, consulting engineers, 38 The Temple, Dale Street, Liverpool, 2: Construction of the Mynachlogddu water supply, comprising the construction of a spring impounding chamber, pumping station, a covered 40,000-gallon reinforced concrete reservoir, and laying of approximately 233yd. of 4in. diameter asbestos-cement pipes—West Wales Construction Co., Ltd., 11 Market Street, Haverfordwest, £24,089 (accepted); Young Bros. and Lewis, £25,794; H. B. Thomas, £43,441.

Supply and installation of pumps to serve the Mynachlogddu water scheme—Pulsometer Engineering Co., Ltd., 39 Victoria Street, London, S.W.1, £1,136.

Rosebush water supply including the construction of a brickwork plant house, 12ft. by 9ft. by 8ft. high, and the laying of some 1,200yd. of 2in. asbestos-cement and 4in. polythene water mains, together with valves, and other incidental works—West Wales Construction Co., Ltd., £2,683.

**Nuneaton, War.**—Construction of Weddington pumping main for B.C.—Galliford, Ltd., The Heath, Wolvey, Hinckley, £7,560.

**Scotland.**—Supply and erection of screens and screen guides for the Inverane section of the Loch Awe project for North of Scotland Hydro-Electric Board—Plowright Brothers, Ltd., 197 Knightsbridge, London, S.W.7, £25,000.

**Skipton, Yorks.**—Laying approximately 1,240yd. of 3in. water main at Austwick, near Settle, for Craven Water Board—Ferguson Bros., 46 Hilltop Avenue, Leeds, 8, £1,669.

#### HARBOURS, PIERS AND SEA DEFENCE WORKS

**Margate, Kent.**—Sea defence works from Beresford Gap to Minnis Bay for B.C.—Holland & Hannen and Cubitts, Ltd., 1 Queen Annes Gate, London, S.W.1, £155,165.

**Southport, Lancs.**—Dredging, construction of concrete revetments and removal of concrete walling at the area west of Marine Lake for B.C.—Land and Marine Contractors, Ltd., Millbrook, Spital Road, Bromborough, Ches. Estimated cost £75,000 (recommended, subject to Ministry approval).

#### HEATING AND VENTILATING

**Andover, Hants.**—Installing hot water systems in pre-war Council houses at Vigo Road, Batchelor's Barn Road and Mylen Road for B.C.—Eades Bros., Charlton, Andover, £4,788.

**Derby.**—Ventilation equipment in central kitchen at Kingsway Hospital for Sheffield Regional Hospital Board—Venduct, Ltd., Barkby Road, Leicester, £1,454.

**Fulbourn, Cambs.**—Mechanical engineering services for new admission villa at Fulbourn Hospital, for the East Anglian Regional Hospital Board—Barrett and Wright, Ltd., 1a St. Miles Alley, Norwich, £21,232 (recommended).

**Heston and Isleworth, Middx.**—Replacement of the electrical heating system by an oil-fired installation at Hounslow Heath Junior School for Co. E.C.—C. E. Galpine and Sons, Ltd., 53 Lampton Road, Hounslow, £9,046 (recommended).

**Lowestoft, Suffolk.**—Air-conditioning of operating theatre at Lowestoft and North Suffolk Hospital, for the East Anglian Regional Hospital Board—D. H. Blewitt, 17 Milton Road, Lowestoft, £3,058 (recommended).

**Northallerton, Yorks.**—Conversion of the existing central heating boiler to automatic oil firing at the Assize Courts for C.C.—H. Pickup, Ltd., £1,570 (recommended).

**Norwich.**—Temporary connection of new buildings to existing boiler plant at Little Plumstead Hospital, for East Anglian Regional Hospital Board: Building work—J. Youngs and Son, Ltd., 24 City Road, Norwich, £2,603; engineering work—G. N. Haden and Sons, Ltd., 50 Prince of Wales Road, Norwich, £4,925 (recommended, negotiated tender).

#### HOUSING SCHEMES

**Acton, Middx.**—Following for B.C.: Sixty-five flats in one seven-storey and two three-storey blocks at Palmerston Road and Stanley Road—W. J. Whittall and Son, Ltd., Ernest Gardens, London, W.4, £158,889; 18 at 24 Creswick Road—G. Ward (Ealing), Ltd., 103 Uxbridge Road, London, W.5, £36,539 (recommended, subject to Ministry approval).

**Ashtington, Northumb.**—One hundred houses at Sixth Avenue for U.D.C.—M. Jameson, surveyor—Direct Labour, £145,000.

**Barnsley, Yorks.**—One hundred dwellings, contract S.H.6, and 100 dwellings, contract S.H.7, for B.C.—Direct Labour, £135,850, and T. H. Watford, Ltd., Wombwell, £133,799, respectively (recommended, subject to Ministry approval).

**Bromyard, Heres.**—Two pairs of old people's bungalows at Fromes Hill and four old people's bungalows and four houses at Edwyn Ralph for R.D.C.—Reema Construction, Ltd., Milford Manor, Salisbury, £5,087 and £12,501. Work commencing shortly.

**Cannock, Staffs.**—Site 34a, 234 dwellings, 82 garages, and site 34b, 284 dwellings, 162 garages, one lock-up shop at Longford Road for U.D.C.—H. Wilcox, architect—S.34a—Eadie and Co. (W'ton), Ltd., 29 Waterloo Road, Wolverhampton, £371,195; S.34b—F. A. and H. Taylor, Crossfalls Road, Bloxwich, Walsall, £457,626, respectively (subject to Ministry approval).

**Daventry, Northants.**—Following for R.D.C.: Two bungalows at Byfield—Haynes and Son (Daventry), Ltd., High Street Daventry, £3,011; four at Badby and two at Yelverton—Adkins and Cooper, Ltd., Staverton, Daventry, £5,638 and £2,758, respectively; four at Weedon—F. J. C. Leatherland, Queen Street, Upper Weedon, Northampton, £5,364 (subject to Ministry approval).

**Dungannon, Tyrone.**—Annaghmore site—two blocks of four houses and site works for R.D.C.—McGrath and Co. (Coalsland), Ltd., Dungannon, £12,696 (recommended); Henry Coary, £12,103. Work is expected to start in September.

**Esher, Surrey.**—Thirty-three aged persons' dwellings, Upper Farm estate, West Molesey (contract 313), for U.D.C.—H. G. Winteridge and Co., Ltd., Leatherhead, £52,235.

**High Wycombe, Bucks.**—Following for B.C.: Eight aged persons' bungalows at Laburnum Road—G. A. Griffiths and Son, Verney Avenue, High Wycombe, £12,688; 21 at Barry Lodge site, Booker—R. Cooper, 4 Clifton Terrace, Cliftonville, Dorking, Surrey, £31,173 (recommended, subject to Ministry approval).

**Holywell, Flint.**—Ten dwellings at Gronant for R.D.C.—R. E. Roberts, architect—Percy Jones (Rhyl), Ltd., Towers Estate, Rhyl, £21,142. Work commenced.

**Kiveton Park, Yorks.**—Following for R.D.C.: (1) Twenty-six traditional houses on the Red Hill site at Kiveton Park, (2) 22 traditional houses on the High Nook site at Dinnington. B. D. Thompson, architect, 102 Bridge Street, Worksop—(1) G. and B. Probert, The Bungalow, Church Lane, Letwell, £33,920 (accepted); J. H. and W. E. Ilett, Ltd., £37,171; J. E. Smith (Worksop), Ltd., £38,927; D. H. Brown, £36,882; Dornie and Bell, Sons and Co., Ltd., £37,436. (2) G. and B. Probert, The Bungalow, Church Lane, Letwell, £29,985 (accepted); J. H. and W. E. Ilett, Ltd., £31,708; D. H. Brown, £31,835; Dornie and Bell, Sons and Co., Ltd., £32,670; Craggs Building Co., Ltd., £39,629.

**Leiston - cum - Sizewell, Suffolk.**—Erection of 20 houses for U.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

**Merthyr Tydfil, Glam.**—One hundred and twenty-eight houses at Gurnos estate for B.C.—C. Bryant and Son, Ltd., Whitmore Road, Small Heath, Birmingham, 10, £252,417 (subject to Ministry approval).



**Norwich.**—Four additional staff houses at Astley Road, Little Plumstead Hospital, for the East Anglian Regional Hospital Board—T. Gill and Son (Norwich), Ltd., Hall Road, Norwich, £10,741 (recommended, negotiated tender).

**Portadown, Armagh.**—One hundred houses at Garvaghy Road for B.C.—Collen Bros., Portadown, £185,217.

**Portsmouth.**—Three houses and five garages at Hatherley Road for City Council—V. H. Dye, Highbury Grove, Cosham, Portsmouth, £7,034 (recommended, subject to Ministry approval).

**Sedgley, Staffs.**—Twelve flats, 48 houses and five bungalows for U.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

**Sheppshed, Leics.**—Erection of 26 houses for U.D.C.—Gregory Housing, Ltd., 21 Farncombe Road, Worthing.

**Startforth, Yorks.**—Five old people's bungalows at Mickleton for R.D.C.—K. V. Shaw, engineer and surveyor—R. L. Wade and Son, St. Helens, Bishop Auckland, £5,395 (accepted); R. C. Williamson, £6,674; J. H. Stephenson, £5,913; D. V. Roper, £7,685.

**Stepney.**—Twenty-six maisonnettes in a four-storey block and nine old people's dwellings in a single-storey block, with seven tenants' stores, six garages, etc., at Ben Jonson Road site, Ocean Estate, for L.C.C.—Rowley Bros., Ltd., Tower Works, Dunloe Avenue, London, N.17, £98,958 (accepted); Hammond and Miles, Ltd., £103,230; Thomas McInerney and Sons, Ltd., £103,730; Kirk and Kirk, Ltd., £104,920; Poolman (Builders), Ltd., £106,273; H. C. Horswill, Ltd., £110,047; Wm. J. Jerram, Ltd., £112,880.

**Strabane, Tyrone.**—Ninety-seven houses at Ballycolman for U.D.C.—J. McMenamin, Railway Road, Strabane, £183,115.

**Swinton and Pendlebury, Lancs.**—Eight house at Folly Lane, Swinton, for B.C.—E. Tonge and Sons, Ltd., 78 Station Road, Swinton, £17,257 (recommended).

**Tiverton, Devon.**—Twenty-five bungalows and six houses and eight garages at Lansdown estate for B.C.—R. P. Mayne, 55 Queensway, Cowley Moor, Tiverton, £34,583 and £13,535 (subject to Ministry approval).

**Tutbury, Staffs.**—Twenty-five one-bedroom and one two-bedroom bungalows, the construction of an estate street, including surface water sewers; and ancillary works on a site adjacent to Dunstall Road, Barton-under-Needwood, for R.D.C.—T. Frankland, engineer and surveyor—V. M. Browne, Tatenhill Lane, Branston, Burton-on-Trent, £34,750 (accepted, subject to Ministry approval); Lewis Bros (Wendosfield), Ltd., £40,474; F. W. Kinsey, Ltd., £42,814; Macmillan Construction Co., Ltd., £44,733; Thomas Lowe and

Sons, Ltd., £48,364. Work commencing July.

**Washington, Dur.**—Forty-two houses with roads and sewers at Village Lane for U.D.C.—T. E. Crowe, surveyor—J. and T. Robson (Builders), Ltd., Blue House Lane, Washington, £71,301.

**Wisbech, I. of E.**—Eleven bungalows at Gorefield Road, Leverington, for R.D.C.—A. Mitchell and Son, Gorefield Road, Leverington, Wisbech, £14,510.

**Wymondham, Norfolk.**—Two pairs of semi-detached houses at Ethel Gooch Road, for U.D.C.—R. O. Bond, architect, Mountergate, Norwich—E. C. Amos, 29 Cyprus Road, Attleborough, £7,618 (accepted); F. J. E. Bye, £7,776; C. J. Scott, £8,385. Work commencing July.

#### MATERIALS AND SUPPLIES

**Ashington, Northumb.**—Supply of timber for 100 flats at Sixth Avenue housing estate, for U.D.C.—G. and N. Wright, Ltd., Import Dock, Blyth, £13,145.

**Swinton and Pendlebury, Lancs.**—Supply of roofing tiles for the Beehive estate, Clifton, section 3, for B.C.—Marley Tile Co., Ltd., Northwich, £4,205 (recommended).

#### PLANT AND MECHANICAL TRANSPORT

**Acton, Middx.**—Supply of an Austin diesel 2 3/4-ton tipping lorry for B.C.—Car Mart, Ltd., 320 Euston Road, London, N.W.1, £1,065 (recommended).

**Barnsley, Yorks.**—Supply of following for B.C.: Drott shovel complete with scarifier—R. Cripps and Co., Ltd., Lombard House, Parliament Street, Nottingham, £1,800; 3 cu. yd. dumper—E. Boydell and Co., Ltd., Elsinore Road, Old Trafford, Manchester, 16, £1,481; 5-ton diesel tipping lorry—Eyre Bros. (Barnsley), Ltd., Barnsley, £1,301 (all recommended).

**Harrogate, Yorks.**—Supply of two 2-ton tipping lorries and one sweeper-collector vehicle for B.C.—Howdens of Harrogate, Ltd., West Park, Harrogate, £1,493, and Yorkshire Patent Steam Wagon Co., Ltd., Pepper Road, Leeds, 10, £3,261, respectively (recommended).

**Hastings, Sussex.**—Supply of one long-wheel-base Gipsy Utility vehicle for B.C.—Skinners (Hastings), Ltd., 18 Western Road, St. Leonards-on-Sea, £816 (recommended).

**Hornsey, Middx.**—Supply of a Bray 450 T.F. Ford 6D 80-b.h.p. tractor shovel for B.C.—Crimble of Staines, 10 Kingston Road, Staines, £3,942; part-exchange allowance of £500 (recommended).

**Nottingham.**—Provision of one shaft skip winding equipment at Cotgrave Colliery for

National Coal Board—Plowright Bros., Ltd., Chesterfield. Estimated cost £135,000.

**Portsmouth.**—Supply of following for City Council: One tractor-mounted Holman tractair compressor, with two breakers and airhose; and one Fordson tractor, with loading shovel and trailer—Gordon Motors, Southampton Road, Cobham, Portsmouth, £1,223 and £983, respectively; one salvage tender—United Service Garages, Portsmouth, £952 (recommended).

**Queensbury and Shelf, Yorks.**—Supply of a hydraulic loading shovel mounted on a Fordson Super Major diesel power unit for U.D.C.—Gordon Sudworth, Ltd., Maple Street, Moldgreen, Huddersfield, £1,256; (accepted); Tate of Leeds, Ltd., £1,436; Holdsworth (Yorkshire), Ltd., £1,521; W. G. Search, Ltd., £1,990.

**Southport, Lancs.**—Supply of a Sykes Univac 4in. portable pump, with engine and air exhaustor, mounted on a trailer-type chassis with pneumatic road wheels, together with a quantity of suction or delivery piping and ancillary equipment for B.C.—Henry Sykes, Ltd., 53b Southwark Street, London, S.E.1, £738 (recommended).

**Wrexham, Denbighs.**—Provision of underground tipping and conveying equipment and a skip plant at Hafod Colliery, Ruabon, for National Coal Board—Plowright Bros., Ltd., Chesterfield.

#### PLAYING FIELDS, PARKS, ETC.

**Ealing, Middx.**—Construction of playing fields at Western Avenue for the use of the Coston Primary and Secondary and Oldfield Primary Schools, for Co. E.C.—Direct Labour (recommended). Estimated cost £9,000.

**Edmonton, Middx.**—Laying out of Turin Road playing field for Co. E.C.—Norman Hill, 174 Twickenham Road, Isleworth, £3,427 (recommended).

**Hull.**—Following for the layout of the Ald. Kneeshaw Recreation Centre in Bilton Grange Park for City Council: Construction of six lawn tennis courts, horticultural work, completion of athletic track, children's playground, two cricket squares, and car park—Direct Labour. Total estimated cost £13,545.

**Nuneaton, War.**—Construction of tennis courts at Riversley Park for B.C.—W. H. Gaze and Sons, Ltd., 19 High Street, Kingston-upon-Thames, £1,009 (recommended).

**Willesden, Middx.**—Reconstruction of John Kelly Secondary School sports ground, Dollis Hill, for Co. E.C.—Norman Hill, 174 Twickenham Road, Isleworth, £7,984 (recommended).



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## RAILWAY ENGINEERING

**British Railways.**—Following contracts placed:

## Eastern Region:

Reconstruction of an abutment of underline bridge between Stonea and March—W. and C. French, Ltd., South Brink, Wisbech, Cambs.

Reconstruction of Stanford-le-Hope station—A. E. Symes, Ltd., 252 High Street, Stratford, London, E.15.

Erection of single-storey ticket office and booking hall building, alterations to air-raid shelter on up platform and provision of new timber-framed shelter on down platform at Benfleet station—Hosking and Son (Essex), Ltd., Arterial Road, Rayleigh, Essex.

Provision of substructure to diesel stores building at Doncaster Locomotive Works—Soil Mechanics, Ltd., 65 Old Church Street, London, S.W.3.

Supply and erection of structural steelwork for stores building at Doncaster Locomotive Works—The Conder Engineering Co. (Midlands), Ltd., Peel House, Lichfield Street, Burton-on-Trent.

Construction of subway and formation of embankment at underline bridge 258 between Barkston (Goods) and Claypole (Goods)—Thomas Fletcher and Co., Ltd., Forest Road, Mansfield, Notts.

Re-glazing of roof over parcels roadway at Liverpool Street station—Walter Cowen, Ltd., Souldern Road, London, W.14.

Works required in order to provide protection for the north bank of the River Trent, under bridge 37, between Radcliffe and Netherfield—Bagguley and Barker, Ltd., 133 North Sherwood Street, Nottingham.

Renewal of fencing alongside running lines in the Sheffield district—Belmont Fencing Co., 94 Elmtown Road, Creswell, Worksop, Notts.

## North Eastern Region:

Extension of high dock at Keighley North Goods Yard; road repairs in the Hull district—Pavior Construction Co., Shipley.

Turnerising of goods warehouse roof at Brighouse—Turnerised Roofing Co., Ltd., London, S.E.11.

Erection of goods handling shed, amenities block, checker's office, sundry small buildings, alterations and additions to existing buildings at Bradford Valley Goods Depot; conversion of

existing hostel into offices and alterations to the repair shed and fuelling facilities at Leeds Holbeck Motive Power Depot—Cawood Wharton and Co., Ltd., Harrogate.

Strengthening and raising of road bridge over the railway at Thwaites station, near Keighley—Ruddock and Meighan, Ltd., Barnsley.

Construction of embankments, ballasting and drainage in connection with the construction of new marshalling yard at Lamesley—Dowsett Engineering and Construction Co., Gateshead.

Accommodation for servicing automatic warning system equipment at York—F. H. Sutcliffe, Ltd., Hebden Bridge.

Provision of a tyre retaining ring fixing machine at North Road Locomotive Works, Darlington—B. and S. Massey, Ltd., Manchester.

Slag ballasting and earthworks in connection with the construction of the new marshalling yard at Healey Mills—McLauchlan (Knottingley), Ltd., Knottingley.

Provision of heating in the up yard control building at Newport Marshalling Yard—Brightside Heating and Engineering Co., Newcastle.

Painting of bridges at Darlington and in the Darlington and Newcastle districts, Ouseburn and Howdon viaducts and bridges on the line from Bishop Auckland to Ferryhill—Wm Latimer and Co., Ltd., Newcastle.

**Lamesley, Dur.**—Construction of embankments, ballasting and drainage for new marshalling yard at Lamesley for British Railways—Dowsett Engineering and Construction, Ltd., Low Fell, Gateshead.

## RIVER AND FLOOD PREVENTION WORKS

**Lincolnshire.**—Reconstruction of approximately 3½ miles of the floodbank on the west bank of the River Trent between Cottam pumping station and Church Laneham, approximately seven miles south of Gainsborough for the Trent River Board—Dyggor Contractors, Ltd., Station Road, Ilkeston, Derbys (subject to Ministry approval). Estimated cost £120,000.

## ROADS, BRIDGES AND SITE WORKS

**Abertillery, Mon.**—Surface dressing (hot tar) of approximately 87,000 sq. yd. of roads

for U.D.C. Reginald H. Eke, engineer and surveyor—W. and J. Glossop, Ltd., Court Road, Bridgend.

**Acton, Middx.**—Resurfacing County and district roads and repaving footways for B.C.—Sparkes Construction, Ltd., Ludlow Road, Feltham, £8,365 (recommended, subject to C.C. approval).

**Cheltenham, Glos.**—Following for B.C.: Footpath and carriageway reconstruction—Hadsphallic Construction Co., Ltd., 83 Pestbury Road, Cheltenham, £16,725; resurfacing of carriageways—Amalgamated Roadstone Corporation, Ltd., 18 Stanhope Gate, London, W.1, £8,732 (recommended).

Site works for the erection of garages at Lower Park Street and Severn Road—P. McDonnell, 88 Keynsham Road, Cheltenham, £2,443 (recommended, subject to Ministry approval).

**Cwmbran, Mon.**—Resurfacing of Oakfield Road for U.D.C.—Wm. Adams and Co., Moderator Wharf, Kingsway, Newport. Work commenced.

**Darlington, Dur.**—Construction of initial roads and sewers at Yarm Road for B.C. G. S. Short, borough engineer—Direct Labour, £15,040.

**Derbyshire.**—Reconstruction of bridge over River Rother, Bedgreave Mill, Beighton, for C.C. S. Mehen, county surveyor—Lilworth Contractors, Ltd., Knowle House, Norfolk Park Road, Sheffield, 2.

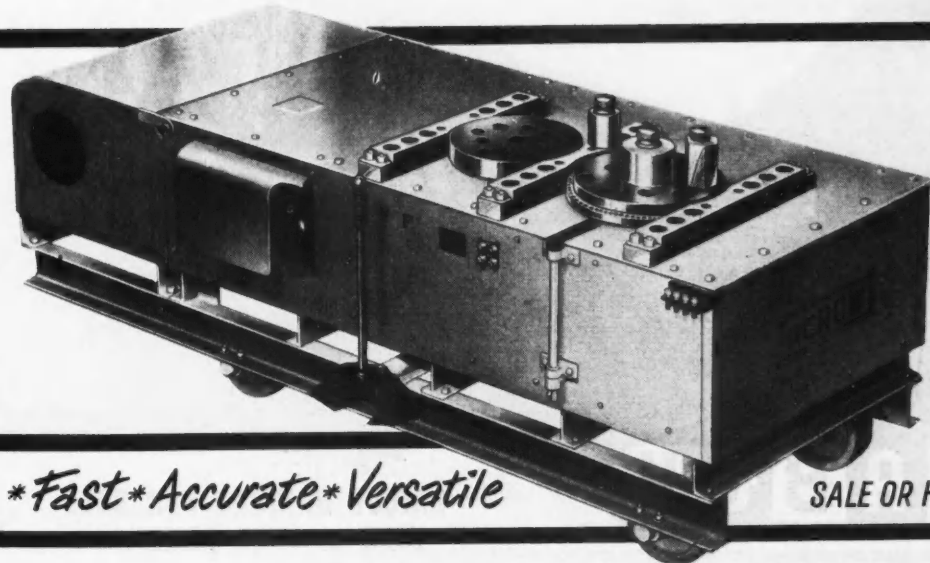
**Harrogate, Yorks.**—Making-up of following for B.C.: Oliver Grove—General Contractors (Leeds), Ltd., 54 Bentley Lane, Leeds, 6, £2,814; Derwent Road (part), Rydal Road (part) Coniston Road (part), and Bilton Close—Ibmac, Ltd., 36 Sunbridge Road, Bradford, £812, £2,580, £1,545 and £564, respectively (all recommended).

**Hastings, Sussex.**—Construction of access roads and floor slabs for the erection of 148 garages at various housing estates and the making-up of Offa Road for B.C.—G. S. Dicker (Engineers), Ltd., 37 Hughenden Road, Hastings, £19,322 and £4,010, respectively (recommended, subject to Ministry approval).

**High Wycombe, Bucks.**—Provision of hard-standings for vehicles at Micklefield estate for B.C.—P. Collins (Contractors), Ltd., £2,178 (recommended, subject to Ministry approval).

**Hungerford, Berks.**—Reconstruction of estate roads at the Granthams and Honey Hill, Lambourn, for R.D.C., comprising the laying of some 1,100 super. yd. tarmacadam

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carriageway, together with footways, concrete garage bases, and other ancillary works—Sydney Green and Sons (Contractors), Ltd., Highlands Farm, Henley-on-Thames, Oxon, £6,114 (accepted, subject to Ministry approval); Amey's Asphalt Co., Ltd., £7,193; C.E.R.B. Construction (Southern), Ltd., £6,614.

**Kent.**—Construction of the roadworks on the 26-mile Medway Motorway (M.2) for M.T.: Section 1 (west of the Medway Bridge)—a consortium of J. L. Keir and Co., Ltd., Christiani and Nielsen, Ltd., and Sydney Green and Sons (Contractors), Ltd., £1,006,408; section 2 (Medway Bridge-Stockbury)—G. Wimpey and Co., Ltd., £5,954,183; section 3 (Stockbury-Brenley Corner)—John Laing Construction, Ltd., £4,734,665. Work commencing shortly.

**March, I. of E.**—Surface dressing of district roads during 1961 for U.D.C.—Darby's Sand and Gravel Co., Ltd., Chatteris Road, Mepal, Chatteris, 8d. per super. yd.

**Northampton.**—Excavation and surfacing part of St. John's Street Station site and adjoining land for a car park for B.C.—F. M. Sparrow, Ltd., Highfield Road, Oakley, Bedford, £15,673. Work commenced.

**Oakham, Norfolk.**—Improvement of Cemetery Road for U.D.C.—Midland Macadam and Construction Co., Stafford Street, Leicester, £2,016.

**Portsmouth.**—Development of South Wymering Farm for City Council—Warines (Contractors), Ltd., London Road, Hilsea, Portsmouth, £8,874 (recommended); Direct Labour, £9,000; Southern Counties Construction Co., Ltd., £10,362.

**Rochester, Kent.**—Surfacing of forecourt to two lock-up garages in two-course tarmacadam at Love Lane for R. C. Tompkins—Hodsons, Ltd., 17 Wrotham Road, Gravesend.

**Ware, Herts.**—Private street works at Warner Road for U.D.C.—Roads Reconstruction (Contracting), Ltd., 106 Gold Street, Wellingborough, Northants.

**Wortley, Yorks.**—Surface dressing of approximately 115,000 sq. yd. of roads for R.D.C. Arthur Wikeley, engineer and surveyor—W. and J. Glossop, Ltd., York.

#### SEWERAGE, SEWAGE AND REFUSE DISPOSAL

**Barnsley, Yorks.**—Supply of pipes for the Grange Lane area surface water drainage

for B.C.—Stanton Ironworks Co., Ltd., Nottingham, £10,901 (recommended).

**Bromyard, Heres.**—Sewage disposal plant for eight dwellings at Edwyn Ralph for R.D.C.—G. Bouston and Sons, Sherford Street, Bromyard, £2,391

**Dorchester.**—Construction of the Cerne Abbas sewerage and sewage disposal works for R.D.C., comprising (a) provision and laying of approximately 2,300 lin. yd. of 6in. diameter sewers, together with all manholes and ancillary works; (b) construction of an ejector station and 1,000 lin. yd. of 5in. diameter rising main; (c) construction of sewage disposal works, comprising screening chambers, settlement tank, filter bed, humus tanks and sludge drying beds, complete with ancillary works, toolshed, access roads, etc.; (d) certain flood relief works into the River Cerne, embracing the dredging and widening of the river bed W. Herbert Bateman and Partners, consulting engineers, Chesterfield House, Bathaston, Bath—Devon Contractors, Ltd., Venny Bridge, Whipton, Exeter. Work to commence in six weeks.

**Gloucestershire.**—Construction of the Frome Valley sewer from Stapleton Road, Bristol, to Winterbourne sewage works for Mangotsfield Urban and Sodbury and Thornbury Rural Councils, Maynard, Froud and Stevens, consulting engineers, Alliance House, Baldwin Street, Bristol, 1—John Howard and Co., Ltd., 13 Buckingham Gate, London, S.W.1. Estimated cost £750,000. Work commencing shortly.

**Irvine, Ayr.**—Construction of approximately 800 lin. yd. of 15in. to 6in. diameter concrete and f.c. sewer, with ancillary works and excavating, and laying bottoming for 5,000 sq. yd. of roadway at the industrial estate for B.C. R. W. Morrison, burgh surveyor—Wm. Cairns (Irvine), Ltd., 2 Friars Croft, Irvine, £7,323 (accepted); Jas. Anderson (Builders), Ltd., £9,237; Alan Skelton, Ltd., £10,460; Andrew McCracken and Son, Ltd., £12,564.

**Letchworth, Herts.**—First stage of off-site soil and surface water drainage work at Jackman's estate, for L.C.C.—William Old, Ltd., 433 Pinner Road, Harrow, Middx., £119,909 (accepted); Fitzpatrick and Son (Contractors), Ltd., £146,681; Howgrod Farrow, Ltd., £185,254.

**Mitcham, Surrey.**—Sludge disposal scheme at the sewage purification works for the

Wandle Valley Joint Sewerage Board, comprising the construction of press house (two storey), approximately 107ft. by 72ft.; primary sludge storage tanks, two, each 40ft. by 20ft.; secondary sludge thickening tank, 50ft. diameter; primary sludge pump-house, conditioner buildings, covered storage, and ancillary works, including sludge pipelines, sewers and site works. W. B. Wignall, engineer and surveyor to the Board—J. L. Eve Construction Co., Ltd., 17 Hillside, Ridgeway, Wimbledon, S.W.19, £199,762 (accepted, subject to Ministry approval); T.H. Contractors, Ltd., £210,031; William F. Rees, Ltd., £217,806; Speirs, Ltd., £234,989.

**Morley, Yorks.**—Re-laying of the Daisy Hill sewer for B.C.—Hadsphallic Construction Co., Ltd., Dean Avenue, Leeds, 8, £3,600 (recommended).

**Southport, Lancs.**—Replacement by water closets of any other than water closets in 25 buildings for B.C.—K. Blundell, 32 Forest Road, Southport, £711 (recommended).

**Torrington, Devon.**—Construction of the Yarncombe Village sewerage scheme for R.D.C.—J. Dennis and Son, Ltd., Knowles, Branton, £10,123 (accepted); A. A. Beer, Ltd., £11,694; C. P. Unwin and Sons, Ltd., £13,730; Richard Costain (Construction), Ltd., £16,057.

**Warrington, Lancs.**—Construction of approximately 330yd. of 9in. concrete pipe sewers, together with concrete manholes at Station Road, Penketh, for R.D.C. S. C. Oxley, engineer and surveyor, 39 Wilson Patten Street, Warrington—A. C. Brew, Ltd., 653 Liverpool Road, Irlam, Lancs.

#### STREET LIGHTING

**Barnsley, Yorks.**—Supply of 100 silver ray lanterns for public lighting for B.C.—Engineering and Lighting Equipment Co., Ltd., Sphere Works, St. Albans, Herts., £1,130 (recommended).

**Bournemouth, Hants.**—Supply of 110 group A tubular steel columns for B.C.—Abavus Municipal, Ltd., Sutton-in-Ashfield, Notts.

**Bridport, Dorset.**—Provision of street lighting at Barrack Street and St. Andrew's Road, for B.C.—Lea Valley Erectors, Stevenage, £3,479 (recommended).

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**Cheltenham, Glos.**—Supply of lanterns and gear (bill 1) and erection of columns and fitting of gear (bill 2) for B.C.—General Electric Co., Ltd., Magnet House, Great Western Road, Gloucester, £2,494 (recommended).

**Flintshire.**—Street lighting. Penymynydd roundabout trunk road, A.550, supply and erection complete of tubular steel columns with 200-W sodium lanterns for C.C.—Abacus Municipal, Ltd., Sutton-in-Ashfield, Notts.

**Woodbridge, Suffolk.**—Provision of new lighting scheme for the central town area for B.C.—Eastern Electricity Board, £1,571.

### GOVERNMENT CONTRACTS

**Air Ministry.**—Contracts to the value of £4,000 or over for the week ended June 9: Building work: Sharijah, Persian Gulf—Richard Costain, Ltd., Westminster Bridge Road, London, S.E.1; Carlisle, Cumb.—F. Parkinson, Ltd., Blackpool, Lancs.

Artificers' work: Cheadle (Staffs), etc.—Dickinson (Burslem), Ltd., Burslem, Stoke-on-Trent; Abingdon (Berks.), etc.—George Foster (Contractors), Ltd., Broadway, Worcs.; Burtonwood, Lancs., etc.—G. and J. Seddon, Ltd., Little Hulton, Walkden, Manchester; West Raynham (Norfolk), etc.—Walter Lawrence and Son, Ltd., Swaffham, Norfolk; Linton-on-Ouse (York), etc.—Arthur Stephenson (Harrogate), Ltd., Hookstone Chase, Harrogate, Yorks.

Supply and installation kW diesel generating sets: Leuchars, Fife, Cottishall, Norwich, Leconfield, Yorks., and Wattisham, Suffolk—The English Electric Co., Ltd., Rugby, War.

**Ministry of Finance, Northern Ireland.**—Contracts exceeding £250 in value placed during the period May 22 to June 2, inclusive:

Installation of gas appliances: C.D., Felden, Whitehouse—Belfast Corporation Gas Department, Ormeau Road, Belfast, 7. Internal and external cleaning and painting: R.U.C. Station, Armagh—R. J. Somerville, 73 Barrack Hill, Armagh.

Supply, etc., Antiquarian Plan Press Units: Ministry of Finance Stores, 18-24 Tomb Street, Belfast, 1—Lord Roberts Workshops, 415 Castlereagh Road, Belfast, 5.

Construction of hardstanding, etc: P.O. Garage, Ballarat Street, Belfast, 6—J. C. Ramsey, 101 Mount Merriam Park, Belfast, 6.

Electrical installation: Greenmount Agricultural College—Gilmore and Co., 35 Fountain Street, Belfast, 1; Ministry of Labour and National Insurance, Lisburn—

A. and C. Electric, Ltd., 8 College Square East, Belfast, 1.

Extension, low pressure hot water, etc.: Ministry of Labour and National Insurance, Lisburn—Johnston Bros., Main Street, Hillsborough.

Supply, etc., steel roller shutter doors: New Offices, Stormont—Bolton Gate Co., Ltd., Waterloo Street, Bolton, Lancs.

External painting: Strabane Agricultural School—M. Patton and Son, 18 Mountjoy Road, Omagh.

Boiler inspection—annual: Government Establishments in Northern Ireland—Johnston Bros., Main Street, Hillsborough.

Design, erection, etc., wireless towers: R.U.C., Belfast and Armagh—British Insulated Callender's Construction, Ltd., P.O. Box 108, 30 Leicester Square, London, W.C.2.

Low pressure hot water heating, etc.: R.U.C. Station, Aughnacloy—J. Robinson and Co., Ltd., 37 Pandora Street, Belfast, 12.

**Ministry of Works.**—Contracts placed for week ended June 3:

Buckinghamshire: Joint Services Staff College, Latimer House, Chesham—students' new quarters—W. J. Simms, Sons and Cooke, Ltd., Haydn Road, Sherwood, Notts.

Devon: Plymouth—clearing and re-grading of temporary housing sites—Hill and Lang (Plymouth), Ltd., 32 Wolsden Street, Plymouth.

Durham: Durham—Renewal of heating at Head Post Office—Selborne Engineering Co., Ltd., Selborne Gardens, Newcastle upon Tyne.

Essex: Basildon—Erection of new Head Post Office—Wm. Sindall, Ltd., 347 Cherry Hinton Road, Cambridge.

Gloucestershire: Filton, Bristol—foundations for temporary Pos. Office—C. H. Pearce and Sons, Ltd., Westbury Hill, Bristol.

Lanarkshire: Glasgow—counter reconstruction, etc., at Head Post Office—Colin Hunter, Ltd., 170 Great Western Road, Glasgow, C.4.

Lancashire: Burnley—erection of telephone exchange—Wm. Eaves and Co., Ltd., Daggars Hall Works, Vicarage Lane, Blackpool.

London: Baynards House, 1-13 Chepstow Place, W.2—Installation of boilers—C. J. Jefferies, Ltd., 149a Lancaster Road, W.11; Waterloo Bridge House, Waterloo Road, S.E.1—alterations to lift shaft—Walker, Clinging and Co., 16 Perry Hill, Catford, S.E.6; Queen Anne's Mansions, Queen Anne's Gate, S.W.1—passenger lift, builder's work—Richard Maddern, Ltd., 15 The Viaduct, Sherwood Road, South Harrow, Middx; 118-120 Kingsland High Street, E.8—adaptations to form branch

Post Office—John Greenwood, Ltd., King William Street House, Arthur Street, E.C.4. Middlesex: Southgate—extensions and adaptations to sub-district Post Office—C. L. Nye, Ltd., Cranbourne Road, Potters Bar.

Midlothian: M.O.W. Depot, West Park Place, Edinburgh—alterations—R. Dixon, 15 West Barnton Terrace, Edinburgh, 4.

Staffordshire: Beatty, Yarnfield—external and internal decorations to Post Office—Thos. E. Talbot and Son, Ltd., Leonard Street, Burslem, Stoke-on-Trent.

Surrey: Caterham—erection of a sorting office—Grace and Marsh, Ltd., Waddon, Croydon.

Sussex: Henfield—erection of a telephone exchange—James T. Longley and Co., Ltd., East Park, Crawley.

Wiltshire: Micro-biological Research Establishment, Porton—ventilation plant and cold room—Hope's Heating and Engineering, Ltd., 16 Berners Street, London, W.1.

Yorkshire: White Horse Yard, Wakefield—erection of sorting office—A. Clifford Green, Ltd., Market Street, Wakefield; Westfield Lane, South Elmsall—erection of telephone exchange—Walter Firth, Ltd., Armthorpe Road, Doncaster; Windsor Street, Saltburn—erection of telephone exchange—H. Peacock (Guisborough), Ltd., 131 Westgate, Guisborough.

**Post Office.**—Contracts for duct laying, etc., works to the value of £4,000 and over placed during the two weeks ended June 10:

Hugh Brown (Engineers), Ltd., Chart Road, Ashford, Kent; James Cooper (Construction), Ltd., 28 Kensington Church Street, London, W.8; Leonard Fairclough, Ltd., Chapel Street, Aldington, Lancs.; The Norwest Construction Co., Ltd., Litherland, Liverpool, 21; William Press and Son, Ltd., 22 Queen Anne's Gate, Westminster, London, S.W.1; Alexander Thomson and Co. (London), Ltd., 45a Kensington High Street, London, W.8; P. I. Walls and Bros., Ltd., Saintfield Road, Carryduff, Belfast, Northern Ireland.


**War Department.**—Contracts placed for the week ended June 2:

Co. Antrim (Lisburn): building—P. Carvill and Sons, Ltd., Newry (Co. Down).

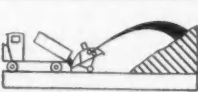
Derbyshire (Derby): painting T. H. Kenyon and Sons, Ltd., London, W.9; (Eggington and Marchington): building—Arthur Holmes and Sons, Ltd., Derby; (Eggington): building—Sir Alfred McAlpine and Son, Ltd., Wolverhampton.

Gloucestershire (Gloucester): miscellaneous—John Simmonds (Gloucester), Ltd., Gloucester.


Middlesex (Enfield): heating—Richard Crittall and Co., Ltd., London, W.1.




PIPELAYING




UNLOADING LORRIES



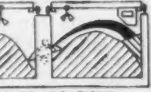
THROUGH WINDOWS




OVER OBSTACLES



LOADING SHIPS




IN POWER STATIONS

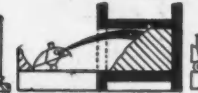


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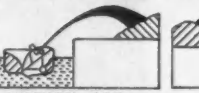
EARTHMOVING



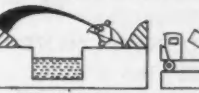
BACKFILLING



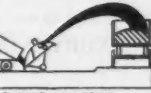
LOADING LORRIES



UNLOADING SHIPS



OVER DYKES



LOADING WAGONS

# VAL DE TRAVERS

## FOR ASPHALTE • TARMACADAM • FELT ROOFING

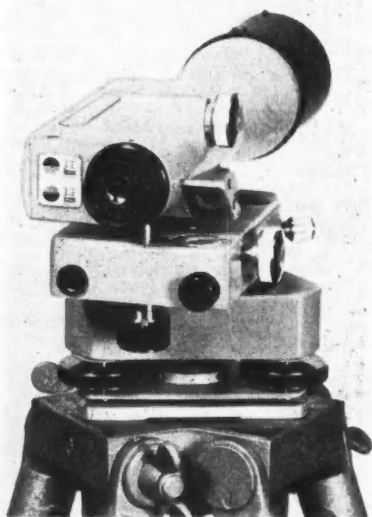
LONDON • BARROW • BIRMINGHAM • CANTERBURY • EXETER • GLASGOW • LINCOLN • LIVERPOOL • MANCHESTER • NEWCASTLE



**Trade and Company News****NEW SURVEYOR'S LEVEL IS  
EASIER TO OPERATE**

A NEW development of the S330 surveyor's level, made by Cooke, Troughton and Simms, Ltd., York, makes the final levelling with the coincidence reader a direct and positive operation.

The level now incorporates a tinted



S330 surveyor's level

telescope spirit vial that dispenses with the uncertainty of which way the gradient screw should be turned. The vial is insulated against temperature changes, and is illuminated by a heat-absorbing, light-diffusing window. Geometrically mounted, the vial is read by an optical coincidence system and coincidence is easily achieved by reference to a coloured schematic diagram adjacent to the telescope eyepiece. Eyepoints for the telescope, vial setting and circle reading are on the same vertical plane, and contained within a 3in. diameter circle.

The horizontal circle, which may be rotated independently of the telescope and levelling base, is of glass, silvered on the underside and affixed to a metal mount.

A feature of the sexagesimal version is that it is figured at every degree, and reads direct to 10 minutes of arc by means of a graticule in the reading eyepiece. The centesimal version is figured at every grade and reads to 0.2g. There are extra-long eye-clearances on the circle-reading and bubble-reading eyepieces.

For rapid levelling the S330 is provided with a triangular levelling base having two lead quick-motion footscrews. There is the usual adjustment for wear to the screw bushes, and the level is connected to the tripod by a central screw permanently attached to the latter. A small circular spirit vial for the preliminary levelling is mounted on the stage and easily viewed by means of a permanently set mirror.

A clamp and slow motion screw for controlling the movement of the telescope in azimuth are fitted, and a single screw for final levelling on the line of sight. The optics are treated with low reflection coatings which reduce glare and increase light transmission.

**Telescope Specification**

Aperture—1.5in. Field of view—1°50 minutes. Focusing—internal by rack and pinion; minimum distance—6ft. 8in. Magnification—28X. Resolving power—0.01ft. at 1,000ft. Reticule—glass with horizontal and vertical lines and stadia; stadia ratio—1:100; additional constant—zero. Vial—sensitivity—1 minute of arc per 0.1in.; accuracy—mean error in 1 mile of single leveling  $\pm 0.25$  minute.

**VENT-AXIA'S NEW RANGE**

Vent-Axia, Ltd., are introducing a new and extended range of window, wall and roof ventilating units—all in four sizes and having a number of exclusive features including automatic shutters and choice of single directional or reversible control switches which, it is stated, boost the performance of the unit as well as giving the conventional low and normal running speeds.

**CONTINENTAL ANCHOR  
CHANNEL FOR U.K.**

THE Halfen system of anchorage for reinforced concrete and steel structures, in use on the Continent for some years, has been introduced into this country by Kennion Irvine and Co., Ltd., 75 Victoria Street, London, S.W.1.

The system comprises a hot rolled steel channel of a special section (in various sizes and lengths) secured by steel straps passing through pressed out loops in the back, or interior side, of the channel and embedded in the concrete in the manner of reinforcing bars. The load is held by means of special forged steel bolts designed to fit the lips of the channel with which they are to be used.

Nine different channel sections are produced, which with their corresponding bolts, give a working load carrying capacity of 150 to 6,000lb. per foot run of channel, depending on the size of the section, the factor of safety allowed being from 2½ to 3 according to the composition of the concrete in which the channel is embedded.

Channels are placed in position with the shuttering before the concrete is poured; thereafter, the specially designed hook or hammerhead forged steel bolts can be moved at will along the length of the channel at any time during the life of the building. Additional bolts can be added to the channel should they subsequently be required. Bolts with eyes or hooks for the attachment of loads can also be supplied. With steel structures the channel is fastened directly to the steel members.

Maximum strength and adaptability is claimed for the system, which has been designed for the anchorage of machines, transformers, ventilators, rails, travelling cranes, and similar loads requiring fixing.

**140 C.F.M. COMPRESSOR  
TRACTOR MOUNTED**

Atlas Copco (Great Britain), Ltd., Maylands Avenue, Hemel Hempstead, Herts., have mounted an air-cooled air compressor delivering 140 c.f.m. on to a tractor, with the drive coming from the tractor's power take-off.

Known as the Roughrider, the combined unit is a Fordson Major tractor carrying a two-cylinder reciprocating compressor of the type used in two existing Atlas Copco machines, the VT4 portable and the TT6 skid-mounted stationary compressors. Cylinders, valves, pistons and other wearing parts are interchangeable.

**WEED CONTROL CONFERENCE**

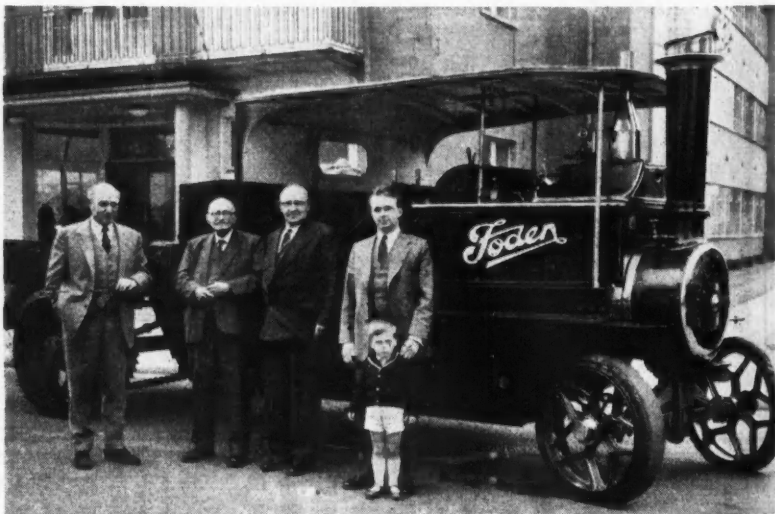
Representatives of local authorities, British Railways, British Waterways, oil companies, wharfingers and other industries concerned with weed control recently attended a conference held by Disinfestation Ltd., at the Pest Advisory Centre, Dover Street, London.

The conference demonstrated how weeds could be controlled efficiently and economically for purposes of amenity or reduction of hazards such as fire. In addition an exhibition of photographs, equipment and chemicals was staged jointly by Disinfestation Ltd., and Chipman Chemical Co., Ltd.

**SURVEYING INSTRUMENT  
REPAIRS**

Survey and General Instrument Co., Ltd., announce that they have now completely reorganised their surveying instrument repair department at 238 Walworth Road, London, S.E.17, and are able to offer a quicker turn-round, for instance: 3-4 weeks for the overhaul of a theodolite and 2-3 weeks for the overhaul of a level.

The company have also introduced an additional service for the repair of levelling staffs.



Foden made their name with the steam wagon. Suitably, then, an "old crock" is featured in this recently taken picture of four generations of the Foden family. Mr. William Foden, governing director, is second from the left, and on his right and left, respectively, are his sons, Mr. R. G. Foden and Mr. J. E. Foden, joint managing directors. Mr. D. C. Foden, London sales representative and the son of Mr. J. E. Foden, is on the right with his boy Hugh

## Trade and Company News

NEW TRUCK RANGE ANNOUNCED  
BY ALBION MOTORS

A NEW range of truck chassis designed to operate at a gross vehicle weight of 40,000lb. is to be introduced in September by Albion Motors Ltd., Glasgow.

Designated the Super Reiver, the new chassis will be an addition to Albion's existing range of Reiver light six-wheelers with gross ratings of 15½ tons, of which over 4,000 have been sold since they were introduced just over two years ago.

There are three models in the new range, two for haulage and one for tipping. Model RE29N has a wheelbase of 15ft., model RE29L has a wheelbase of 16ft. 4in., and the tipper model, RE29T, has a 12ft. 2in. wheelbase.

As well as uplifting the gross weight rating, the new Super Reiver differs from the present Reivers in several ways. It has the same 125-h.p. Leyland Power-Plus 400-S diesel engine and five-speed constant mesh gearbox with optional over-drive, but differences occur in its brakes, steering, rear axles, and tyre equipment. All models are also fully fitch plated.

## Cam-Actuated Brakes

Cam-actuated brakes operated by air pressure are fitted instead of air-boosted hydraulic brakes. Air pressure is generated by a 9 cu. ft. twin-cylinder compressor mounted on the engine, an unloader valve being fitted between the compressor and air-pressure reservoir. The footbrake operates all wheels through an air control valve which admits compressed air from the reservoir to direct-acting brake chambers adjacent to each road wheel. A multi-pull ratchet type handbrake operates the rear wheel brakes by mechanical linkage. Total footbrake area is 892 sq. in., and 648 sq. in. in the case of the handbrake.

Burman recirculating ball type steering gear is fitted instead of the Marles cam-and-double-roller type, the unit having a variable ratio ranging from 29.4 to 1 in the straight-ahead positions, to 50 to 1 at full lock. This will greatly reduce the effort needed to manoeuvre the Super Reiver when fully laden.

The twin-drive rear axles are of the Albion spiral bevel type with hub reduction gearing. They are heavier units than those on Reiver models and are designed to withstand the most rigorous treatment.

Larger tyre equipment is used, 10.00—20, 14-ply tyres being fitted at the front, whilst 9.00—20 10-ply tyres are fitted on the rear wheels.

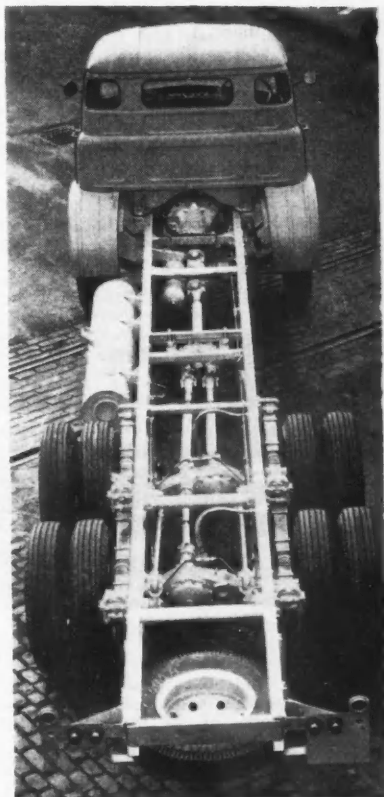
## Relay Gearbox

Following the practice adopted for the existing Reivers, the new chassis is fitted with a relay gearbox which divides the drive from the main gearbox into two, each with its own propeller shaft. One is coupled direct to No. 1 rear axle while the other passes through the leading axle body via a relay shaft to the second axle. It incorporates a lockable differential, controlled from the driver's cab, for use when

ground conditions are difficult, e.g., over soft ground or on ice.

Also fitted on the Super Reiver is the Albion system of non-reactive rear suspension, which completely overcomes the disadvantages associated with rocking beam suspension on the rear axles of multi-wheelers.

The front end of each rear spring is anchored to the frame. A system of bell crank levers and tension rods link the



Model RE29L

rear ends of the springs at No. 1 and No. 2 rear axle on each side of the chassis frame assuring that the forces at the rear ends of the springs are equalised at all times. The tendency to lose adhesion, experienced when sufficient torque is applied to the axles, in driving or braking, causing one axle to lift relative to the other is entirely eliminated. Thus braking is improved and unequal tyre wear remedied.

The specification includes a 24-V electrical system and the chassis can be fitted with the Albion modern-styled all-steel or plastics easy-access luxury cab with all-round vision.

DRAINAGE AND VENTILATING  
SYSTEMS IN P.V.C.

THE application of unplasticised, unmodified p.v.c. to soil and waste drainage, roof drainage and warm air heating and ventilation systems has been made by A. B. Plastics, Ltd., and the three systems are to be marketed by Burn Bros. (London), Ltd., St. Mary Cray, Orpington, Kent, under the name Terrain.

The fittings in the soil drainage system are of the "all socket" type, permitting the use of plain ended pipes which may be cut and used in any length. The method of jointing is by solvent welding, both pipes and fittings being made to very close tolerances. Fittings include bends, branches, caps, plugs, tees, crosses, reducers, clean-outs and expansions joints. Small branch connections are made by a boss joint which is in two parts; the inner portion is inserted in an appropriately sized hole cut in the main pipe, the sleeve is then slipped over the inner connection and both cemented in position.

An access door can also be fitted to the pipe or the straight portion of a branch and is easy to remove for inspection or to clear an obstruction.

In the roof drainage system, the Terrain gutter is 4in. deep, half round, having a flow capacity of 11 gallons a minute when laid level and 15½ gallons a minute when laid to a fall of one inch in 50ft. The outlet, together with the down pipe, will accommodate the full capacity of gutters flowing in from each side—approximately 31 gallons per minute.

The design of the joint support bracket eliminates the need to use mastic in jointing lengths of gutter. Gutter ends are simply inserted into semi-circular slots at each side of the support bracket, where they are securely held. Space within the bracket leaves adequate room for thermal expansion.

Both the joint and ordinary support brackets are designed complete with a nickel plated fixing screw which is securely held in a tapered hole. Fixing is a one-handed operation; no bradawl is required to make a preliminary hole in the fascia board, and the screwdriver, when inserted in the screw seating hole, immediately connects with the screw slot. The gutter weighs about 60lb. per 120ft.

The Terrain ventilation ducting is made from ½in. and 1in. rigid p.v.c. sheets fabricated by using extrusions, cold welded with solvent, to form the required sections. Jointing is simple in that the ends are just pushed together. This is made possible by attaching a piece of foam plastic to the plain end of a duct which is then pushed into a section extrusion fixed to the other end of the next duct. This arrangement ensures a good seal and also acts as an expansion joint.

The ducting is resistant to corrosion, noise and "drumming." The upper temperature limit is 140 degrees F.

ADJUSTABLE ALUMINIUM  
BALUSTRADING

J. Starkie Gardner, Ltd., Merton Road, London, S.W.18, have patented a system of adjustable, standardised aluminium balustrading.

The interchangeable components include handrails, brackets, balusters, and newel posts. Specification of balustrading is simplified by the use of an architect's trace off sheet, which the company has produced to minimise the work of detailing.

On this sheet are drawn, in various scales, the different types of balusters and other components of the range together with details of fixings so that by placing it on the drawing board the chosen type can be traced through quickly.

Inherent in the system of securing handrails is the provision for adjustment to cover any angle or rake, and vertical adjustment is also catered for.

## BIGGEST EVER MARION DRAGLINE

THE Marion Power Shovel Co., Marion, Ohio, U.S.A., is building for the Peabody Coal Co., the largest ever walking dragline. Known as the Marion 8800 the machine is twice the size of any previously built, with a 275ft. boom and 85 cu. yd. bucket, it will have a working weight of over 5,100 tons. By comparison today's largest dragline carries a 220ft. boom, 35yd. bucket and has a working weight of 1,725 tons.

The following figures give an indication of the size of the machine: Height from ground level to gantry, 100ft.; width, shoe

to shoe, 113ft.; length of house, 103ft.; maximum height, pit floor to boom point, 324ft.; diameter of base, 80ft.; total horsepower (30 motors), 19,830; dumping radius, 248ft. From an operating standpoint the 8800 can dig material 12 storeys below ground level, swing it over 550ft. and dump it on top of a 14-storey building.

The machine will require over two miles of wire rope. It will have a swing speed of 1.6 r.p.m. and a cycle time of approximately one minute. One operator will control all digging and walking operations.

**Trade and Company News****NEW SOUTH-WESTERN DEPOT  
FOR BOWMAKER (PLANT)**

**T**HE new Exeter depot of Bowmaker (Plant) Ltd., situated in the industrial area of the Pinhoe Estate, was recently officially opened by Mr. C. J. Lake, chairman, Bowmaker (Plant) Ltd. The depot, which replaces the Fenny Bridges branch, incorporates workshops, stores and offices, including locker rooms and canteen facilities. In addition to covered accommodation, an almost equal area of concrete paved yard is provided for parking and display of earthmoving equipment.

**Service Department**

The service department consists of an open workshop, 120ft. by 60ft., with clear heights 22ft. A feature of the roof to this workshop is that the trusses are formed

The stores department adjoining the service area is 120ft. long by 60ft. wide with clear headroom of 17ft. Within this area is the parts office and loading bay. This portion of the building has a more usual flat roof with roof light.

**"Open" System**

The administrative offices are on the first floor, and are planned on the "open" system, there being no separate offices except for the area manager. The employees' locker rooms and canteen adjoin the general office.

The whole structure is steel framed with concrete casing only to the multi-storey office section. All floors are of reinforced concrete. Roofs consist of insulated metal decking covered with roofing felt and brickwork is used generally up to a height



The new depot at Exeter

of triangular "space frames" similar to aircraft construction, one side of the triangle being completely glazed so that a high level of natural daylighting is obtained.

The whole of the workshop is served by a 5-ton gantry crane for the movement of heavy components and all equipment for complete servicing has been included, such as dynamometers, fuse arc welding plant, track presses and fuel injection testing equipment, apart from normal machine tools.

of 7ft. 6in. and above this insulated aluminium cladding is utilised. Aluminium is again chosen as the material for the office block windows.

One feature of the depot is the range of six comparatively large "up and over" doors to the service department; each door is 19ft. wide and 17ft. high and folds away under the projecting canopy.

The whole building is centrally heated, and in addition to the provisions for daylight lighting, there is carefully balanced artificial lighting.

**FIVE-WAY ADJUSTABLE HINGE**

An automatic adjustable hinge is being introduced into this country by the Contracts and Engineering Division of A. Arenson, Ltd., Porters Wood, Valley Road, St. Albans, Herts., who are the sole manufacturing agents in the United Kingdom.

The hinge has five positive locking positions, plus a complete fold down position, there being no buttons or levers to manipulate to determine or to release the angle of inclination. At 135 degrees the hinge is locked in the fully open position. The adjustment from 135 to 105 degrees is through four automatic positive locking stages, each movement being of 7½ degrees; the sixth movement releases the action either for the fold down position or the return to the fully open position.

It is constructed from 14 gauge pressed steel. The standard model has ends to fit ¾in. diameter tube, but can be supplied with flat extension ends to facilitate fitment to timberwork.

**LEYLAND BOOSTS VEHICLE  
EXPORTS**

A 47 per cent. overall increase in the production of vehicles for export has been made by Leyland Motors, Ltd., during the first five months of this year as compared with the same period last year. Accounting for a large proportion of this increase is a doubling in production of the heavier types of truck.

During this period increased shipments of both truck and buses have been made to South and Central Africa, Argentina, Ceylon, Ghana and Uruguay. More trucks have also been shipped to Australia, the British West Indies, East Africa, Peru, Portugal, Spain and Greece.

**PERKINS SMALL DIESEL ENGINE**

Production of a higher powered small diesel engine for agricultural applications, developing 41 b.h.p. at 3,000 r.p.m., is announced by Perkins Engines, Ltd. Named the Four 107, the engine is supplementary to the agricultural version of the 1.6 litre Four 99.

**BRITISH STANDARDS****Polythene Pipe for Water Services**

This British Standard (B.S. 3284 "Polythene Pipe (Type 710) for Cold Water Services") has been prepared to meet the needs of industry, but in view of the limited background of general practical experience it must in certain respects be regarded as subject to revision in the light of further developments.

This Standard has been published as a standard complementary to B.S. 1972 (B.S. 1972: "Low Density Polythene Tube for Cold Water Services"), it covers a newer type of polythene which, although basically similar to the polythene covered by B.S. 1972, has different mechanical characteristics.

In this British Standard the term "polythene" is used. It is synonymous with the term "polyethylene".

The type designation (710) is an indication of the recommended maximum working stress for the material in pounds per square inch at 20 deg. C., when in pipe form. This stress has been used as the basis for calculating the minimum wall thicknesses.

Appendix D. Notes on the use of polythene pipe (Type 710) for cold water services, has been included to assist users in assessing the suitability of the pipe for particular purposes, and to ensure its proper use. Price 6s. net.

**Piping systems for the petroleum  
industry**

Eleven years' research and discussion went into the preparation of this new British Standard (B.S.3351: 1961). The result is a document which should be invaluable to every British petroleum engineer.

America's codes and standards for the petroleum industry are generally used throughout a large part of the world and the Committee responsible for B.S.3351 drew liberally upon data and information made available through the B.S.I. liaison with certain American Standards Association Sectional Committees. In consequence, the specification represents, in terms of British materials and manufacturing processes, standards of design and construction basically similar to those laid down in the American Standard Code for Pressure Piping (ASA B31.3, "Petroleum refinery piping").

Basic requirements and recommended practice are given for the selection and application of materials and components of piping systems in the petroleum and petrochemical industries; the design, fabrication, installation and testing of these systems are also covered. Reference is made to some 80 British Standards and to some 50 American Standards.

Piping systems are interpreted in B.S.3351 as assemblies of pipe, valves, pipe fittings, bolting, gaskets and pipe supports. Such systems in petroleum refineries, petrochemical plant and gas processing plant are covered by the standard; so are refinery tank farms, terminals and bulk blending plant. Among systems not covered by the standard are those in steam and power plants, for the design and construction of which British Standards or other accepted national codes are available. Price 30s. net.

Copies of these British Standards may be obtained from the British Standards Institution, Sales Branch, 2 Park Street, London, W.1.

**BROLAC PAINTS FILM AND  
DEMONSTRATION**

A film show and demonstration on Brolac paints was recently staged in London by John Hall and Sons (Bristol and London), Ltd.

Following an illustrated talk by Mr. T. Jeffes, London regional manager, the film, "A Testing Time"—which is in colour and lasts about 20 minutes—was shown, and a practical demonstration arranged.



## BIG INCREASE IN CONSTRUCTIONAL WORK DURING FIRST QUARTER

### New Orders at Record Level

CONTRACTORS in Great Britain carried out constructional work to the value of £561 million in the first quarter of 1961, according to provisional figures collected by the Ministry of Works. This was £2 million higher than the output achieved in the fourth quarter of 1960 and £61 million more than in the first quarter of last year.

The value of new housing work rose only slightly compared with the previous quarter but was £15 million higher than a year ago. Nearly all the increase was in work for private developers.

The value of industrial building continued to rise and was £21 million higher than in the first quarter of 1960. The value of miscellaneous building dropped by £3 million compared with the previous quarter but was £7 million higher than a year earlier.

The value of work done for public authorities (other than housing) was £9 million more than in the first quarter of 1960.

#### Employment

In April, 1,107,000 operatives were employed by contractors in the construction industries. This is the highest figure

recorded for employment in April since the end of the war. Employment was in fact markedly high throughout the first quarter averaging 40,000 more than in 1960, stimulated partly no doubt by the exceptionally good building weather.

The index of production showed no change compared with the previous quarter but was five per cent. higher than in the first quarter of 1960.

#### Value of New Orders

Orders for new work obtained by contractors in the first quarter of the year amounted to £521 million, £48 million or 10 per cent. more than in the corresponding quarter of 1960 and in the last quarter of last year, and about 15 per cent. higher than in the middle quarters: it was the highest figure since the series began in 1957.

The value of work coming forward in the public sector, particularly non-housing, showed a considerable increase, from £131 million in the first quarter of last year to £157 million this year. Most of the contracts let during the first quarter will be in progress during the fourth quarter of the year, and will therefore include an allowance for the wage increase which takes effect in October and for other price increases.

### £250,000 MUSEUM TELEPHONE EXCHANGE CONTRACT

A £250,000 contract for the basement for the Museum Telephone Exchange and the foundation for the proposed radio tower has been awarded to Peter Lind, and Co., Ltd., by the Ministry of Works.

The basement will be about 200ft. square by 25ft. deep, comprising the basement floor, lower ground floor, and ground floor. To obviate noise and vibration, it will be surrounded by a reinforced concrete wall, constructed in a form of trench excavation, and the use of a stabilising solution by the Italian firm ICOS. This wall forms a permanent wall of the basement.

The foundation of the tower will be of cellular construction, incorporating a prestressed concrete slab. This will ultimately support the radio tower, which will be more than 500ft. high and which will incorporate a restaurant near the top. The work up to ground level is to be completed by the end of this year.

The Contract Journal understands that tenders for the superstructure should be invited during October.

### ECONOMICS OF LANCASTER BY-PASS

An economic investigation has been made of the operation of the Lancaster By-Pass in accordance with the methods recommended by the Ministry of Transport and the Road Research Laboratory. This investigation has shown that the savings in travel costs and accidents (with deductions for increased road maintenance) amount to £750,100 a year. This represents a return of 17.3 per cent. on the capital investment involved in the construction of the by-pass.

Reporting on this, Lancashire County Highways and Bridges Committee say the main item in the savings arises from the reduced travel costs for vehicular traffic.

Broadly, it is made up from savings in the central area of Lancaster, where 23,000 vehicles moved at average speeds of 9.4 miles per hour and on the approaches to Lancaster, where, for example, on the south section 20,800 vehicles moved at an average speed of 22 miles per hour.

The diversion of traffic on to the motorway has increased these speeds to 14.9 and 29.9 miles per hour respectively, whilst traffic using the motorway amounts to 11,500 vehicles per day and travels at an average speed of 45.7 miles per hour (cars).

The committee report that as the amount of traffic on the roads increases so will the saving amount at a greater rate. Assuming the present rate of growth in traffic of 7 per cent. per annum is maintained, then the road will have paid for itself in 4½ years.

### ADDITIONS TO MOTORWAY CONTRACTS

Certain additions to the contracts for the Bristol-Birmingham Motorway bringing the total amended contract price up to £4,161,366 have been agreed between Worcestershire County Council and the Ministry of Transport.

Some of the additions, approved on engineering grounds in the light of experiences elsewhere, involve a change in the position of the concrete margins from the edge of the carriageway to the back of the hard shoulder.

In this position the margin will add strength to the edge of the hard shoulder and will make possible the provision of a system of controlled drainage on high banks.

Some form of white marking will now have to be used in replacement of the margins to define the edge of the carriageway. It will probably take the form of a plastic white line or white calcined flint chippings.

CONSTRUCTION IN GREAT BRITAIN  
1. Value of Work Done by Contractors (at current prices)

Value of Work Done by Contractors (at current prices)				£ million	
		1st Quarter	1960	4th Quarter	1961 1st Quarter
New Housing					
For Public Authorities	...	...	59	60	60
For Private Developers	...	...	88	101	102
Housing Total	...	...	147	161	162
Other New Work					
For Public Authorities	...	...	103	111	112
For Private Developers:					
Industrial	...	...	75	93	96
Miscellaneous	...	...	58	68	65
Other New Work Total	...	...	236	272	273
Total All New Work	...	...	383	433	435
Repair and Maintenance	...	...	117	126	126
Grand Total	...	...	500	559	561

2. Operatives Employed by Contractors\*

	1960		1961	
	January	April	January	April
thousands				
New Housing	281	288	281	293
Other New Work	431	443	463	478
Repair and Maintenance	332	332	330	336
Total	1,044	1,063	1,074	1,107

Note.—\* Insured operatives aged 15 years and over, excluding administrative technical and clerical workers and self-employed operatives.

#### 3. Index of Production

Changes in the volume of work done are shown in the official index of industrial production. The index numbers for construction are as follows:—  
1954=100

1960	1961
1st Quarter 115	1st Quarter 121
4th Quarter 121	

4. Value of New Orders obtained by Contractors

Value of New Orders obtained by Contractors					£ million
					1961
					1st Quarter
					1960
					4th Quarter
					1st Quarter
New Housing					
For Public Authorities	...	...	61	69	73
For Private Developers	...	...	132	122	130
Housing Total	...	...	193	191	203
Other New Work					
For Public Authorities	...	...	131	125	157
For Private Developers:					
Industrial	...	...	82	85	83
Miscellaneous	...	...	67	72	78
Other New Work Total	...	...	280	282	318
Total All New Work	...	...	473	473	521

# Talking of Safety

by  
**"DRAGEE"**

"EVERY year," said the instructor, "thousands of site workers injure themselves through over-exertion. Yes, that may sound funny, but it's quite true, because most of those people have been over-exerting themselves without realising it while manhandling loads."

He pointed to a wooden box which had been placed on the low table in front of him.

"This box is filled with scrap iron and it weighs about 60lb. Alf—come over here a minute. I want you to pick up the box and put it down again—slowly."

Alf, a burly six-footer, grinned at his mates and walked over to the table. He bent down, clasped the box to his chest, and lifted it a foot off the table. Then he carefully laid it down again.

"Easy," he said, dusting his hands.

"Yes, it was easy because you are pretty strong. But if you had to do that many times even you would soon get tired, because you were not lifting properly. You would find your fingers getting sore, then your back and legs would begin to ache. What I am trying to do now is to show you a new kind of skill—at least it will be new to many of you, if you haven't had this kind of instruction before. First of all, then, let's think about the way we use our hands—or, better still, the way Alf uses his. Would you just pick up the box again and hold it?"

Alf obliged. "What's wrong with that?" he demanded.

"Suppose somebody else tells us. Any suggestions?"

There was a silence, then a voice said, "He should be getting danger-money."

"Not if I can help it," said the instructor. "Notice how he's gripping it—with the ends of his fingers? Right. Put it down again. Now lift it with the palms of your

"Dragee," who is a practising safety engineer, would welcome subjects for discussion in this column. All names of persons mentioned in these discussions are entirely fictitious. Questions of law are expressed as the author's personal opinions and are not claimed to be authoritative.—EDITOR.

hands. That's more comfortable isn't it?" Alf nodded. "And that's the proper way to grip your load, with the palms of the hands, and the roots of the fingers and thumbs—the other way will tend to strain your fingers and your forearm muscles. O.K., let's do it again."

Alf bent down and grasped the box, but at this point the instructor put his hand across his shoulders and said, "Stay as you are." He turned to the class.

"Look at the shape of that man's back. Just like a croquet hoop." He motioned him to release the load. "If you could see what was happening to all those little bones in your spine you wouldn't do that," he said. "What Alf was trying to do was simply this: he was bending his back to reach the box, and then he was going to straighten it again—from its weakest position—to raise the load from the table. At the same time he has to tighten his leg muscles to keep himself from toppling forwards."

The instructor demonstrated this with an ingenious model consisting of a dummy figure complete with articulated arms, legs and spinal column. A handle was fixed to the back of the figure, and a load was attached to the extremities of the arms. He showed that a great deal of force had to be applied to the handle in order to straighten the spine and raise the load.

"The important thing to remember," he said, "is to avoid using the back muscles for lifting. The spine should be kept as straight as possible, and the actual lifting should be done with the leg muscles. Bill—let's have you over here."

"Oh, blimey," said Bill. He stepped forward. "Mum always said no exercises after a meal."

"Now," the instructor went on, "we'll start again with the load close to your body, like this." He pulled it towards the edge of the table. "Now get down to the load by flexing your hips and knees, hold the load close to the body, hands well underneath—that's fine—now tuck your chin in and lift with your legs... up... O.K. Put it down the same way: head

back, flex the hips, knees and ankles... down you go... good. Simple, isn't it?"

Bill repeated the operation, but this time he wavered slightly.

"Not quite right yet, you see. There's one more thing you've got to learn. Try standing with your feet slightly apart, one in front of the other—like this—and you'll keep your balance right. Try again."

This time the movement was smooth and rock-steady. Bill looked pleased and slightly surprised. "Works a treat that way," he said.

The instructor walked over to a packing case standing on the floor. He went down on one knee, tilted the box towards his shoulder, clasped it firmly against his chest, and stood up.

"It's the same action," he said. "Proper grip, arms close to the body, chin tucked in, back straight—and lift steadily. If it doesn't come up easily that way, stop trying and get some assistance—or fetch a crane."

This was repeated by the entire class until the instructor was satisfied they had got the knack of it, then he said:

"Now we come to the last bit. We usually pick up a load because we want to move it to another place, so let's make sure we start the movement correctly. The idea is to point the leading foot away from the load, then turn the body to the lifting position. This is where you use the weight of the body as a counterbalance. As you raise the load, turn with it in the direction of the leading foot—and walk away. This needs a little practice, but you'll soon get the idea. If you remember these simple rules you'll save yourselves a good deal of unnecessary effort—and possible injury as well."

## BOOK REVIEWS

**Water Engineer's Handbook, 1961.** Edited by D. Wilkinson and N. Squire. Publishers: The Colliery Guardian Co., Ltd., 30-31 Furnival Street, London, E.C.4. Price 20s. 439pp.

Now in its 29th year of publication, the handbook gives details of all water undertakings in the British Isles and other leading authorities associated with the Water Industry. Brought up-to-date, the contents include information on undertakings affected by regrouping up to the beginning of April, 1961, and particulars of new water boards and companies which came into operation over the same period.

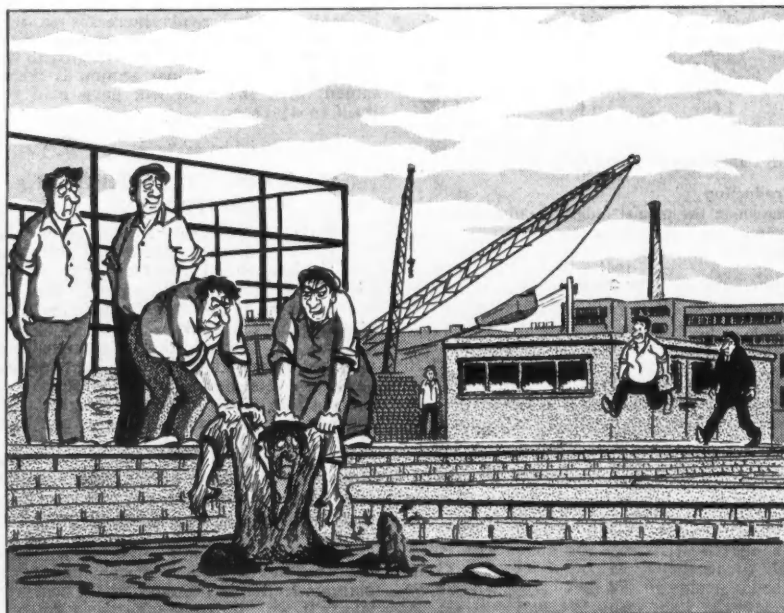
Fifteen sections and a comprehensive Buyers' Guide are contained in the book. Details of waterworks administration includes the names of: responsible officers with addresses and telephone numbers; sources of supply with average daily yields; treatment applied to this water and its hardness as distributed (in parts per million); statistics covering population and areas served, consumptions (total daily average and gallons per head, domestic, trade and bulk supplies), and storage capacities; works under construction and projected in the British Isles; and hardness of water as distributed to consumers in England and Wales.

**Hutchins' Prices Schedules, 1961.** Publishers: G. H. Lake and Co., Ltd., 283 Archway Road, London, N.6. 138pp. Price £3 10s.

The purpose of the Schedules, of which the 1961 volume is the 17th edition, is to provide a basis for sound estimating, and annually revised and brought up-to-date, they form an essential part of the estimator's equipment.

In the current edition, wages costs are based on the new rates to commence next October, but the necessary percentage figures for work executed prior to October have also been included.

As usual, the nine Schedules are inserted in loose-leaf fashion within a cloth boards binder, and are separated by coloured index cards for easy reference.



"If I were you, Harry, I'd leave sludge research to them as knows what they're searching for!"

## QUANTITY SURVEYING

### Scale of Professional Charges Revised

A REVISED scale of professional charges for quantity surveying services comes into operation on July 1, 1961. Announcing this recently, the Royal Institution of Chartered Surveyors stated that the Institution's scales of charges have remained fundamentally unchanged for many years and, broadly speaking, the fee for preparing bills of quantities has heretofore been two per cent. regardless of size or character of the works.

Forty years ago, a job of £100,000 was a big job and was probably built in stone, which was measured in detail by the quantity surveyor. This was a fair and reasonable basis. But today, when building techniques are entirely different and jobs of £1m. are by no means unusual, some new thinking becomes necessary.

This is evident from the fact that with the great increase in building and civil engineering work sponsored by Central and Local Government through the agency of the Ministry of Works, service departments, nationalised industries and local authorities, more and more scales of fees have had to be negotiated, or accepted, before these bodies were prepared to employ private firms of quantity surveyors. The published Index of Chartered Quantity Surveyors' fees now contains nearly 50 different scales and, as a result, many clients constantly carrying out building work have tended to adopt a similar attitude.

#### Large Sample

The Institution, therefore, obtained costings from a large sample of practising members, and this evidence confirmed the thoughts of the Quantity Surveyors' Committee that, although the cost of quantity surveying work increases with the size of the job, it does so at a progressively lower rate. They have, therefore, evolved scales with a reducing percentage as the value of the work increases, but which provide an increasing fee throughout the range.

The next point was that the existing initial fee of 2½ per cent. is not sufficient for a very small job, and they have, therefore, increased the initial fee from 2½ per cent. to 3 per cent. so that, whereas in

the old scale the quantity surveyor received 2½ per cent. on the first £20,000 and 2 per cent. thereafter, he will, under the new Scale, receive a fee starting at 3 per cent. in the lowest bracket for the most complicated work and reducing thereafter until it gets down to ½ per cent. over £500,000 in the most simple and straightforward building work from the quantity surveying point of view.

#### Three Categories

The various types of buildings have been divided into categories for the purpose of assessing fees. There are three categories of building work and one of civil engineering work:

**Category A** comprises the most expensive type of work from the quantity surveying point of view and comprises houses, banks, certain types of university buildings and laboratories, town halls, police courts, public houses and the like.

**Category B** is building works of simpler character than those in Category A, or works with some element of repetition, e.g. hospitals, schools, halls of residence, etc.

**Category C** is the simplest type of building from the quantity surveying point of view, comprising building works containing little internal details, or with a large amount of repetition, e.g. blocks of flats, offices with open floor space, factories, warehouses, open-air swimming baths and the like.

Another big difference in the new Scale is alternative scales for the quantity surveyor's post-contract services, one being similar to the existing with a percentage fee for valuations for interim certificates and a percentage fee on additions and omissions.

The alternative fee is a percentage on the total cost of the job to include all these post-contract services.

The R.I.C.S. say the reasons for the introduction of this Scale are:

- (a) Many clients object to being kept in ignorance as to their liabilities for professional fees until the job is finished, and it is now possible for a quantity surveyor to quote an overall fee at the outset just as an architect does.

- (b) It is hoped that clients will be attracted by this form of fee and, in consequence, the Institution will thereby be encouraging pre-contract planning, since it is presumed no one would be so rash as to enter into such a fee arrangement unless the job was fully planned.

There is also a difference with regard to unmeasured Prime Cost Sums. It has always been a fundamental principle that the Scale of Charges for Quantity Surveying Services is an overall Scale, based on the inclusion of all provisional and prime cost items, and after careful examination it was decided that the Institution should adhere to this principle. In some modern buildings, however, the heating, ventilating and electrical work are becoming very expensive, particularly in those buildings incorporating a full air conditioning system. It is as yet rarely possible for detailed drawings to be produced at a stage when the quantity surveyor can measure and include the work on a measured basis in the bills of quantities and so the items have to be included as P.C. Sums, which sometimes are very large in comparison with the contract figure. The Institution have, therefore, set a ceiling figure of 25 per cent. on the contract sum for unmeasured P.C. Sums for these services.

The new Scales are, the Institution believe, comprehensive and fair and, therefore, merit adoption by all clients and surveyors, and it is the intention of the Institution to try to get this new Scale adopted as the basis of all Government, local government and nationalised bodies' work.

### FORTH ROAD BRIDGE STEELWORK CONTRACT

William Bain and Co., Ltd., Coatbridge and London, have secured orders for the bridge steelwork in Contracts 3 and 5 of the Forth Road Bridge. The orders are valued at approximately £54,000, and involve the supply of nearly 800 tons of high tensile steel castellated bridge beams, some of which are 4ft. 6in. deep and 82ft. long.

The consulting engineers are Mott, Hay and Anderson. The contractors for Contract 3, the southern approaches, are A. M. Carmichael, Ltd., Edinburgh, and the contractors for Contract 5, the northern approaches, are Whatlings, Ltd., Glasgow.

### BERNARD STREET BRIDGE RECONSTRUCTED AT LEITH

THE reconstruction of Bernard Street Bridge, Leith, has been completed, at an approximate cost of £43,000.

Increasing volume and weight of traffic made the reconstruction of the bridge an urgent necessity. It has three spans fixed with reinforced concrete semi-elliptical arches. The width between parapets is 60ft, which gives a 44ft. wide carriageway and 8ft. footpaths on either side. Over all length is 156ft. and sufficient headroom has been allowed for small craft.

During reconstruction the waterway was kept clear by precasting the arch beams for the spans either on the shore or on the partly completed brick deck. The heaviest of these beams weighed 39 tons, was 52ft. long and 14ft. high. They were lowered into position by two cranes.

The consulting engineers were Blyth and Blyth, and the contractors were Holloways Scottish Constructors, Ltd. The illustration shows the reconstructed bridge.





## ALL-IN BID CONTROVERSY

### New Development in Chicago

THE all-in bid controversy in America sparked off by the Mechanical Speciality Contractors of Chicago is by no means finished. These Chicago contractors produced a plan for separate bids for mechanical speciality work. A summary of the proposed system, which was in effect the one traditionally used in England and Wales was published in our issue of March 23. Shortly afterwards the Associated General Contractors of America counter-attacked with documents defending the all-in bid system and these were summarised in our issue of May 25.

Now we hear that at what is described as "an historic meeting" the Chicago Plan for Separate Bids has been approved subject to some amendments by a Joint Industrial Committee representing Chicago Chapters or Associations of Architects, Consulting Engineers, General Contractors and Mechanical Speciality Contractors. Thus in Chicago, at least, all the interested parties support the separate bids system.

The amended plan is set out below and it is understood that it will be followed up by a new brochure for industry-wide distributors. One interesting feature of the plan as finalised is that it recommends the assignment of the mechanical speciality contracts to the general contractor in every case presumably in the interests of proper control of operations on site. It was undoubtedly a weakness of the earlier draft that such an assignment was contemplated only "in some instances". Another interesting feature of the amended plan is the provisions with regard to the payment of the sub-contractors.

#### Amended Plan

"The Chicago Plan for Separate Bids," as amended, proposes that the architect and/or engineer shall do the following:

- A. Prepare separate specifications for each of five categories of work as follows:
  1. General construction.
  2. Plumbing and sewerage.
  3. Heating, piping, refrigeration and automatic temperature control systems.
  4. Ventilating and distribution systems for conditioned air.
  5. Electrical installations.

- B. Include in the General Construction Specification an estimated percentage of the total cost of the project as represented by the mechanical speciality contracts.
- C. Stipulate in the General Construction Specification a requirement that each general contractor will certify that a reasonable and controlling portion of the work included in his contract will be performed by his own labour force.
- D. Take separate bids for each of the listed categories of work from a specific number of pre-qualified bidders.
- E. Let a general contract to the low bidder on general construction and award contracts, in consultation with the general contractor, to the low bidders in each of the categories of mechanical speciality work.
- F. Assign the mechanical speciality contracts to the general contractor by formal notice in writing, with copies to the mechanical speciality contractors concerned.
- G. Having first been satisfied as to the general contractor's financial responsibility, stipulate in the general contract that each contractor's initial monthly request for partial payment is to be honoured without waiver. Stipulate further that the second and all subsequent requests for partial payments shall be accompanied by waivers for each immediately preceding partial payment. Final payment, however is to be issued only in exchange for final waivers.

### NORTHERN IRELAND WAGE INCREASE

The agreement reached in the wage negotiations between the employers and trade unions of the Joint Council for the Building and Civil Engineering Industry (Northern Ireland) comes into effect on December 1 next, not December 1 last as reported recently.

### RECORD NUMBER OF NEW COMPANIES

THE Companies General Annual Report for 1960\* shows that the year by year increase in the number of new companies registered in Great Britain in recent years continued in 1960. The number of 34,312 new companies registered in that year is the highest in any year since records were first started in 1862 and is nearly 20 per cent. more than in the preceding year and approximately three times the number registered in 1950. The new companies were nearly all private companies.

The total number of companies on the register now exceeds 390,000 of which some 375,000 are private companies. The total paid up capital of companies with a share capital was some £7,385 million at the end of the year of which some £2,660 million was private company capital.

During the year 8,786 companies were dissolved or struck off the registers and winding-up proceedings were begun in 4,506 cases of which 535 were compulsory liquidations.

#### B.o.T. Responsibilities

The Report gives information about some of the responsibilities of the Board of Trade under the Companies Act. Thus, the Board were obliged to reject over 20,000 suggested names for companies, almost all on the ground of their being too like existing names. Again, the Board received nearly 6,000 applications for approval of a change of name. There is also information about the appointment of inspectors during the course of 1960, including the investigations not yet completed into a number of rubber estate and associated companies. There is a section on Board of Trade prosecutions under the Act including 690 prosecutions for failure to file annual returns. The Companies Registration Offices received nearly 876,000 documents for filing and nearly 600,000 company files were inspected by the public, nearly double the number inspected in 1950.

\*Companies General Annual Report by the Board of Trade for the year ended December 31, 1960, published by H.M. Stationery Office, price 1s. 5d.

### CONTROL OF VEGETATION ON ROADS OVERSEAS

Vegetation in the tropics can present a serious problem to the highways engineer. Unchecked it can cause road hazards, block drainage channels and disrupt road pavements. But scientifically used, it can play a useful role in countering erosion by wind and rain, abrasion by traffic and in improving both the safety and amenity of roads.

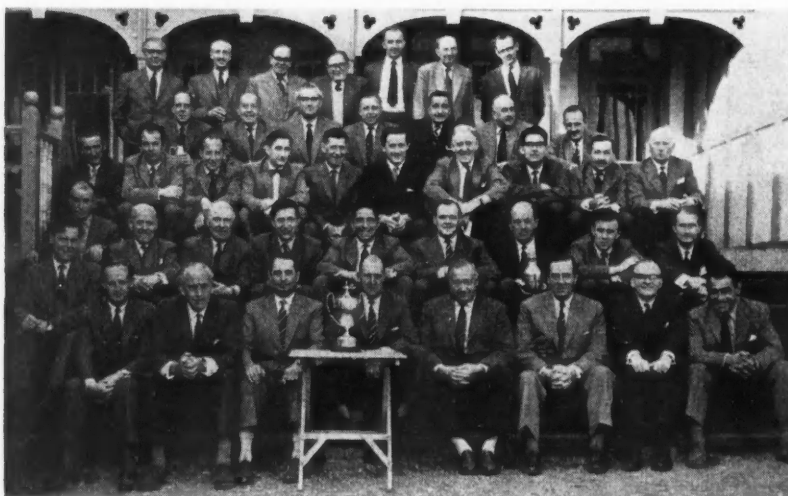
These points are discussed in Road Research Technical Paper 52 published under the title "The Use and Control of Vegetation on Roads and Airfields Overseas" by K. E. Clare, B.Sc., A.R.I.C. (published for D.S.I.R. by H.M.S.O. price 3s. 6d., by post 3s. 11d. (U.S.A. 63 cents)).

The Paper summarises information gathered from thirty-three overseas territories. Costs of control in a number of countries are reported and experiments with chemical treatments described. Chemicals, according to the author, are felt in many quarters to have advantages over manual or mechanical methods of control.

#### RATES OF INTEREST

The following rates of interest now apply to all loans advanced to local authorities, as defined in Section 10 of the Local Authorities Loans Act, 1945, from the Local Loans Fund on and after June 3, 1961:

Loans for not more than 5 years, 6½ per cent.; loans for more than 5 years but not more than 15 years, 6¾ per cent.; loans for more than 15 years but not more than 30 years, 6½ per cent.; loans for more than 30 years, 6¼ per cent.



The annual meeting of the South Wales and Monmouthshire Civil Engineering Contractors' Golfing Society was held recently at the Royal Porthcawl Golf Club. Mr. Ronald Horrocks (captain) presided, and Mr. John Morgan, the president, was represented by Mr. Gil Morgan. The photograph shows some of the 50 members and guests who took part in the competitions. Seated in the first row (left to right) are: Mr. J. Mortimer; Mr. R. Craig; Mr. Ronald Horrocks; Mr. T. L. Lowe (vice-captain and winner of the John Morgan Cup); Mr. Gil Morgan; Mr. E. Howel Jones (captain, Royal Porthcawl Golf Club); Mr. S. W. Smart; Mr. E. V. Dallimore (hon. secretary, Golfing Society); Mr. C. J. Smith

## £300,000 HEREFORD CANTEEN SEATS A THOUSAND

### Extensive Use of Stainless Steel

A CANTEEN which has been designed to serve 2,500 people at any one meal time, and which can seat 1,000 people, has been completed at Holmer Road, Hereford, for Henry Wiggin and Co., Ltd.

The building consists of two main halls each capable of seating 500 people at any one time. In addition to these two halls is a visitors' restaurant which can seat 50 persons. This also serves as a lecture theatre or cinema with a capacity of 150.

The kitchen is so designed that as well as the 2,500 employees that can be served per meal, it can also cater for as many people again should expansion demand it. Additional people would be accommodated in satellite canteens outside the main perimeter of the works.

Apart from the catering facilities provided, there is a billiard room with three

full-size tables for the use of employees. There is also a stage built into one of the main dining halls which embodies the latest techniques in stage presentation and can seat 1,000 people.

A feature of the canteen is the extensive use of stainless steel, both inside and out. A part of the exterior is covered in stainless steel sheet employing the curtain wall construction technique and stainless steel is also used extensively for the window frames. Internally, stainless steel equipment has been used throughout the kitchens in sinks, preparation tables, ovens, hot plates, etc., and it is further used in the decorative sense for the balustrade on the spiral staircase.

The cost of the canteen is estimated at £300,000. W. S. Atkins and Partners, 158 Victoria Street, London, S.W.1, were the architects, and the contractors were Sir Alfred McAlpine and Sons, Ltd.



Exterior view of the new canteen

## N.F.B.T.E. PREPARING STANDARD FORM OF ESTIMATE

**S**PEAKING at the half-yearly general meeting of the Yorkshire Federation of Building Trades Employers in Scarborough recently, Mr. Frank Russon, national president, said:

"Far too many members of the public today are putting building repairs and minor works in hand without taking the precaution of inviting the building firm concerned to submit, in writing, a proper estimate giving details of the terms and conditions upon which the estimate is based.

"Sometimes the urgency with which the repairs or other works are required to be done precludes a written estimate and acceptance. But too often in cases where the required works are not of an urgent nature, arrangements are made verbally and as a result the possibility of differences arising between the client and the building firm is increased.

"This is not a happy state of affairs for reputable building firms anxious to give clients proper satisfaction. Consequently the N.F.B.T.E. is preparing a standard form of estimate for use, as appropriate, in the

execution of small works which, when completed by member firms, will make it quite clear to the client what the quotation is and upon what conditions the work will be carried out.

"The conditions will cover such matters as the use of sound materials, the procedure for dealing with variations from the originally proposed works, remedying of defects, the need to see that proper insurances are taken out, the procedure for settling any differences that may arise.

"This standard form of estimate will, it is hoped, be of help to N.F.B.T.E. firms in raising further the quality of their services to their clients."

### 1962 C.I.B. CONGRESS

The 1962 congress of the International Council for Building Research, Studies and Documentation will be held in Cambridge from September 6-11.

Like the first congress, the second will be open to all interested persons. Those wishing to register provisionally should write to the General Secretariat of C.I.B., P.O. Box 299, Rotterdam, The Netherlands.

## WATER CONSERVATION BY RECLAMATION

**I**N his presidential address delivered on Tuesday at the annual conference of the Institute of Sewage Purification being held this week in Brighton, Mr. Martin Lovett, O.B.E., B.Sc., F.R.I.C., chief inspector of the Yorkshire Ouse River Board submitted that the Institute's interests in the future would be vitally concerned in the concept of water conservation by reclamation of used water.

In general it was true that in this country more "new" water could be made available to meet the increased demand (which in some areas already exceeded supply) by reclamation of used water than by any other means he said. Such reclamation called for pollution control, and for efficient treatment of sewage and trade effluents, which in turn demanded skilled design, construction and management of treatment plants. This reclaimed water could then be used by industry direct, or for the recharge of surface and ground waters.

### Institute's Functions

Referring to the discussions which have taken place concerning the name of the Institute, Mr. Lovett considered that whatever its name its functions would increasingly become those of an Institute for Water Reclamation. The Minister of Housing and Local Government had recently said that far-reaching changes might shortly be necessary if our water resources were to meet the increasing demands made upon them, and that, as the Minister charged with giving the lead, he was not afraid to do so. Mr. Lovett urged that members of the Institute of Sewage Purification be not afraid of taking the view that, as their contribution to conservation, they were charged with the recharging of our rivers, for the benefit of the various communal interests mentioned by the Minister.

No longer, he said, would the object of sewage and trade effluent treatment be merely that of preventing pollution matters from entering our rivers, but would be recognised as assisting the replenishment of their flows by the purposeful discharge to them of used waters purified to the maximum practicable degree.

He was certain that the members of the Institute were ready to make their contributions to that end, and they could therefore look forward with confidence to the future.

## TRINITY COLLEGE LIBRARY DESIGNS

The first prize of £1,500 in the architectural competition for a new library building for Trinity College, Dublin, has been won by Mr. Paul G. Koralek, A.R.I.B.A., who is now working in New York with Marcel Breuer and Associates.

The second prize of £1,000 has been awarded to Mr. Alfred Mansfield, of Haifa, Israel, and the third prize of £750 to a team of American architects working with E. Saarinen and Associates at Birmingham, Michigan.

## ARCHITECTS VISIT TURNERS ASBESTOS

A specially chartered aircraft recently carried 63 architects from London and South East England on a visit to the factory of Turners Asbestos Cement Company at Widnes.

Welcoming his guests, Mr. K. Neve, chairman of the company, said that the firm was the world's largest manufacturer of asbestos cement products. While their quality and efficiency were the best, he was not satisfied that they had explored all the potential uses of asbestos cement or that their aesthetic standards were all that was desired by forward looking architects.

## FOR THE DIARY

### June 28

"Architecture Today" Exhibition, organised jointly by R.I.B.A. and Arts Council of Great Britain, at 4 St. James's Square, London, S.W.1. June 28-July 29.

Meeting of the South Wales branch of the Contractors' Mechanical Plant Engineers, Dunraven Arms Hotel, Bridgend. 7.30 p.m. General discussion on plant matters and technical film.

### July 3

International Union of Architects Congress, London. July 3-7.

### July 4

Southern Counties Federation of Building Trades Employers' Summer Conference, Oxford. July 4-5.

Chartered Surveyors Annual Conference, University of Leicester. July 4-8.

Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.

Meeting of the Mid-Southern branch of the Contractors' Mechanical Plant Engineers, Calcot Golf Club, Bath Road, near Reading. 7.30 p.m. Film show by Saville (Tractors), Ltd.

### July 5

Building and Public Works Exhibition, Belle Vue, Manchester. July 5-15.

### July 12

Half-yearly general meeting of the National Federation of Building Trades Employers, Blackpool. July 12-14.

### July 18

Meeting of the Southern Counties branch of the Contractors' Mechanical Plant Engineers, "Queen Victoria," North Cheam, Surrey. 7.30 p.m.

### July 21

Half-yearly meeting of the Midland Federation of Building Trades Employers, Trentham Gardens, Stoke-on-Trent.

### Aug. 1

Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.

### Aug. 29

Meeting of the Mid-Southern branch of the Contractors' Mechanical Plant Engineers, Calcot Golf Club, Bath Road, near Reading. 7.30 p.m. "Plant Insurance," by T. Kemp.

### Sept. 5

Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.

International Packaging Exhibition, Olympia, London. Sept. 5-15.

### Sept. 7

Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.

### Sept. 26

Western branch of the Contractors' Mechanical Plant Engineers. Supper dance at Ashton Court County Club.

### Oct. 3

Conference of the Association of Public Lighting Engineers, Scarborough. Oct. 3-6.

Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.

### Oct. 5

Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.

Convention on "Planning for Traffic" arranged by the Institution of Municipal Engineers, London.

Meeting of the Institution of Structural Engineers, London. Presidential Address.

### Oct. 9

Annual conference of the Institute of Quarrying, Palace Hotel, Torquay. Oct. 9-13.

### Oct. 10

Annual dinner of the Contractors' Plant Assn., Dorchester Hotel, London.

### Oct. 18

Forty-sixth International Motor Exhibition, Earls Court, London. Oct. 18-28.

### Oct. 19

Annual dinner of the Institution of Mechanical Engineers, Dorchester Hotel, London.

### Oct. 20

Annual dinner of the Yorkshire Federation of Building Trades Employers, Queens Hotel, Leeds.

Autumn general meeting of the Southern Counties Federation of Building Trades Employers, Connaught Rooms, London. 10.30 a.m.

### Oct. 25

Meeting of the Institution of Mechanical Engineers, 1 Birdcage Walk, Westminster, London, S.W.1. Presidential Address.

### Oct. 31

Annual dinner of the British Road Tar Assn., Grosvenor House, London.

### Nov. 2

Meeting of the London branch of the Contractors' Mechanical Plant Engineers, Hendon Way Hotel, Hendon Way, N.W.4. 7.30 p.m.

### Nov. 7

Meeting of the Manchester and District branch of the Contractors Mechanical Plant Engineers, Woodcourt Hotel, Brooklands Road, Sale. 7.30 p.m.

Institution of Civil Engineers, London. Presidential Address.

### Nov. 10

Scottish Motor Exhibition, Kelvin Hall Glasgow. Nov. 10-18.

### Nov. 13

Factory Equipment, Heating, Ventilation and Thermal Insulation Exhibition, Earls Court, London. Nov. 13-18.

### Nov. 15

Building Exhibition, Olympia, London. Nov. 15-29.

### Nov. 21

Annual banquet of the National Federation of Roofing Contractors, Grosvenor House, London.

### Nov. 22

Annual general meeting of the National Federation of Roofing Contractors, London.

### Nov. 30

Annual dinner and dance of the Institution of Water Engineers, Park Lane Hotel, London.

### Dec. 1

Winter general meeting of the Institution of Water Engineers, at Institution of Civil Engineers, London.

### Dec. 4

Royal Smithfield and Agricultural Machinery Show, Earls Court, London. Dec. 4-8.

### Dec. 8

Federation of Master Builders' London Region "Ladies Night." Grosvenor House, London. 6.30 p.m.

## RATIONING BLAMED FOR LAND SCARCITY

**MR. G. FISHER**, national vice-president of the Federation of Master Builders, stated recently that the acute shortage of land was the key factor which was holding house builders to ransom at the present time.

"I would like to make this point—it is land rationing which causes land scarcity," he said. "With all the machinery of control and allocation set up since the war, however well intentioned, the net result has been to limit the amount of land available for housing. Because you cannot manufacture land, the price has risen, and it is now approaching the fantastic figure of anything up to £8,000 or £9,000 an acre near populated areas.

"Our reply to this question has always been to increase the amount of land available, but we realise that there must be some limitations to this. There may well be thousands of acres of suitable land available in the remoter parts of Cumberland, but until populations become centred there, it is no use for housing. Nonetheless, the country may have to do some radical thinking about its land policy in the near future, for it is likely to become the scarcest of all building commodities.

"I see the Labour Party is canvassing the idea of a National Land Corporation which would own the freehold of all land and

lease it for development. This, of course is the rose of nationalisation that smells no sweeter for being called public ownership. The danger here is, that once national corporations come into the picture, they end by telling us what is good for us, whether we like it or not, and I doubt very much whether their opinions will be worth the plans they are enshrined in.

"I suggest we must not be hypnotised by party slogans in this matter. It is not the planning of land as such which builders disagree with; it is the way in which the land is rationed and the apparent inability of many planning authorities to understand the needs of the private builder and the necessary function he performs.

### Urgent Consideration Now

"It may well be we will eventually have to 'freeze' capital values, and relate the cost of building leases to the development value of land. I will not go into the details of such a complicated problem here, but unless we are prepared to pay £1,000 or more per plot, even in provincial areas in five years' time, this problem must have urgent consideration now."

Mr. Fisher was speaking at the half-yearly meeting of the Sheffield and District Branch of the Federation.

## "PLANNING FOR TRAFFIC" CONVENTION

Four Papers are to be presented at the one-day Convention on "Planning for Traffic" to be held on October 5, 1961, at the Central Hall, Westminster. They are "London's Traffic Problem" by Mr. J. Rawlinson, C.B.E., chief engineer, London County Council; "Planning for Road Traffic in the Counties" by Mr. J. Drake, county surveyor, Lancashire, and Mr. R. A. Kidd, county surveyor, Nottinghamshire; "Planning for Traffic in the Provincial City" by Mr. S. G. Wardley, city engineer and surveyor, town planning officer, Bradford; and "Planning for Traffic—Road and Rail" by C. W. King, chief civil engineer, British Railways Central Staff.

The convention, to be opened by Mr. John Hay, Joint Parliamentary Secretary, Ministry of Transport, is being arranged by the Institution of Municipal Engineers.

## £10M. SHEFFIELD HOSPITAL PLAN APPROVED

The Governors of the United Sheffield Hospitals have approved a £10m. ten-year plan which includes the erection of a 691-bed teaching hospital and clinical medical school, an enlarged children's hospital, modern operating theatres at the Royal Hospital, a new ante- and post-natal clinic at the Jessop Hospital, extensions to the Charles Clifford Dental Hospital, and a number of new laboratories.



## POWER LINES AND AMENITY

### Electrical Industry's "Greatest Problem"

"I DO not believe that the British public will tolerate an indefinite extension of the present transmission and distribution network giving, as it does in extending areas of the countryside, an effect rightly described as a wire-scape". This was said at Eastbourne on Tuesday by Sir Christopher Hinton, K.B.E., F.R.S., chairman, Central Electricity Generating Board, in the course of a Paper on "The British Electricity Transmission System" to the British Electrical Power Convention. Sir Christopher said that visual amenity was "the greatest problem" which faced the industry and failure to solve it could shatter the whole foundation of greatness laid down with wisdom in the first half of the century.

#### Opposition in Industrial Areas

Sir Christopher said that about 40 per cent. of the area of England and Wales—including National Parks and areas of outstanding natural beauty—was subject to restriction of some sort or another on grounds of amenity. It was wrong to imagine that it was only in such areas that opposition to the construction of transmission lines and equipment was met. The reaction against their proposals in the industrial towns of the North was now sometimes as severe as the reaction in a National Park. Nor was this reaction unnatural and meriting no sympathy; a small visual amenity in an area which had been made an industrial dump by past generations might be more valuable to more people than a view of outstanding beauty in undeveloped country.

Yet transmission lines and equipment

must be built all over the country and in all types of country. The technical success of the electricity supply industry was founded on its transmission system, and development was such that it was impossible to see how the industry could be run today without a transmission system of the type which they now had. Increasing demands leading to the construction of 2,000-MW to 3,000-MW capacity of plant each year were being met by the construction of new generating stations of 2,000-MW ultimate capacity. Without a transmission system of the present pattern the connection of such stations to points of demand would be economically impracticable.

#### Underground Cost

"To underground the additions to the transmission network which will be needed" said Sir Christopher, "would cost over £100m. a year which is equal to, say, 6d. in the £ on the standard rate of income tax if the money comes from Treasury funds or 20 per cent. on the bulk tariff if money is to be raised by internal finance.

"The British public does not differentiate between transmission and distribution systems and though the undergrounding of distribution systems increases their cost the difference is not so great as with the high voltage transmission system. Our ultimate concern must be the delivered cost of electricity to the consumer and this is most likely to be kept down if the pressure of conservationists on the transmission system is relieved by reasonable concession to them in relation to the distribution system. In the field of visual amenity the industry is one. When any Board offends against visual amenity the loss is to every Board."

## A SCAFFOLDING ACHIEVEMENT

THE recent International Ski Jumping at Wembley Stadium was made possible by split-second planning by Mills Scaffold Company, who designed and erected the jump. Time was the essence of the contract because of other sporting events at Wembley.

Immediately after the Rugby League Cup Final on May 13, work was started on the 150ft. tower and that part of the structure as far as the jumping platform which was 85ft. above the edge of the

arena. The remaining section (200ft. in length), extending practically to the middle of the arena, could not be built until after the dog meeting on the night of Monday, May 29, and all had to be ready for rehearsals on the afternoon of Wednesday, May 31. This involved 80 scaffolders working day and night in shifts.

More than 50,000ft. of tubular steel scaffolding was needed and 5,000 "Self-Lock" frames. Altogether, 200 tons of material were used.



The completed ski jump

## ITALIAN ENGINEER DISCUSSES MOTORWAY BRIDGES

DR. ING. SERGIO DE AMICIS, director and technical head of the Società Concessioni e Costruzioni Autostrade (the organisation responsible for the planning and construction of Italy's Motorway of the Sun), assisted by Dr. Ing. Diego Vanoni, chief technical designer, spoke in London recently on the prestressed concrete bridges and viaducts of the Autostrada.

Explaining the Society's method of working, Dr. De Amicis said that bridges of less than 33ft. span were designed within the Society's own engineering department, for the sake of aesthetic, technical and economic uniformity, but that in the case of larger bridges, individual designers were allowed a degree of freedom, limited only by the need to balance appearance and technical standards.

Prestressed concrete had very soon revealed itself as the most suitable material, enabling the overall height of the bridges to be reduced, cutting down on embankments in flat country and in the mountains reducing the dead load on piers, abutments and foundations, and so making a considerable saving in costs. Another technique fully exploited was precasting.

Most of the Bridges, said Dr. De Amicis, were based on a design of simply supported precast beams spanning from 24ft. to 68ft. These were either of T section, with cables in the lower flanges, or thin-walled box beams with cables in the bottom slab and side walls.

## DOUBLE WHITE LINES "WORKED REASONABLY WELL"

Commenting on the new double white line system, now applied to all trunk roads in the county, Worcestershire County Highways and Bridges Committee say this has worked reasonably well.

"Although a good deal of work is involved in making the various site and speed measurements which are necessary, the county surveyor suggests that he should now start applying the new system to the more important classified roads," state the committee. "For road safety and other reasons it would be necessary to treat considerable lengths of any given route at the same time, rather than applying the system sporadically.

The committee have authorised the drawing up of a programme and the execution of it "during the next two years or so."

## MULTI-STORY CAR PARK, BIRMINGHAM

To the Editor of "The Contract Journal."

Sir,—We congratulate you on the article contained in your issue dated May 11, describing the construction of the new car park at Longbridge for the Austin Motor Co., Ltd.

While we recognise that constructional details must, of necessity, be brief we believe that a most important factor has been omitted from your articles. This is the matter of protection of the concrete columns.

Permanent protection for the columns on this contract has been achieved by the use of "Rigifix" Column Guards; made from mild steel ½ in. thick with 3 in. x 3 in. sides and 3ft. long, 7,000 of these guards were cast in the columns at pre-determined heights to suit the slab levels (your top photograph on Page 711 shows a number of the guards in position on the columns).

We believe you will agree that this is a most important factor in modern civil engineering technique and deserving of mention.

Yours, etc.,

T. FINCH,

Sales Manager.

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## International Construction

### OPPORTUNITY FOR CONTRACTORS IN IRAQ

**A**n important side of the development work to be undertaken in Iraq will be available for foreign civil engineering contractors, and to encourage them the Iraqis are revising their conditions of contract.

This is one of the conclusions drawn in the recently published report of the British trade and industries mission of businessmen and industrialists which visited Iraq last February.

There is also good scope for British tractor and agricultural machinery makers to participate in the mechanization of agriculture. The Iraqis suggested that British manufacturers could help by setting up two or three fully-equipped service stations, including training and hire facilities. The local assembly of tractors was also raised.

Careful attention to after-sales service and to the supply of spare parts for machinery supplied to the market is also essential, says the report. The mission received several complaints about shortcomings in these respects in recent years.

Major Government requirements are said to include plants for the manufacture of fire-bricks, pre-stressed concrete sleepers and other products, and various kinds of building components.

The mission states that the Iraq Government and private industry in Iraq look to the United Kingdom for greatly increased help in technical training at all levels from skilled workmen and foremen upwards. This is needed in relation to both existing and new industries, and seems to require something going beyond present arrangements for training Iraqis in British techniques.

The mission was led by The Hon. H. G. Nelson, managing director of English Electric Co., Ltd., and included Mr. N. O. K. Johnson, overseas contracts manager of Balfour Beatty and Co., Ltd.

### BRITISH FIRM'S RUMANIAN ORDER

Colt Ventilation Ltd., of Surbiton, Surrey, are now in the process of finalising a £40,000 order from the Rumanian People's Government to supply ventilating equipment for a new factory in Rumania.

Two of Colt's top executives, Mr. M. J. Reney, director and joint manager, and Mr. J. J. O'Hea, personal assistant to the directors, flew to Rumania recently to discuss technical details with the Rumanian Ministry of Construction.

The order is for standard unit-ventilation equipment which will be installed in a new radiator and bath factory. During their visit, the Colt representatives are also submitting, at the request of the Ministry of Construction, proposals for the ventilation of a new sanitary-ware factory which the Rumanians are planning to build in the near future.

### PAKISTAN AIR SURVEY CONTRACT

An aerial survey contract worth £250,000 has been awarded to Fairley Air Surveys, Ltd., by the East Pakistan Water and Power Development Authority. It provides for the aerial photography and mapping of the Western area of East Pakistan where agricultural production is regularly imperilled first by flooding (after the Monsoon season) and then by drought during the dry season. The maps will provide new bases for planning drainage and irrigation schemes.

Operational planning for the survey has already started. The aircraft, equipment, air crews and ground survey teams are due to assemble in Dacca, where they will establish their base, in November 1961 and the operation should be completed by the end of 1963.

### £7½M. RUSSIAN ORDER Silos of Prestress Design

**A** £7½m. contract for the design and supply of all plant for two beet sugar factories in the Soviet Union has been awarded to Vickers and Bookers, Ltd, London, by Techmashimport of Moscow.

Four large sugar silos worth over £500,000 have been designed for these factories, in the office of the Chief Civil Engineer of John Laing and Son. Ltd. Similar sugar silos had been previously developed for the British Sugar Corporation, Ltd. Two silos are to be constructed at a factory at Brukhovetskij in the Caucasus and two at Nikolaevskij on the Black Sea coast. Construction work is likely to begin on the projects towards the end of this year.

#### Prestressed Walls

Each silo will have a capacity of 20,000 metric tons of sugar and will measure 118ft. in diameter and 113ft. in height. Walls will be constructed in prestressed concrete on raft foundations and special sliding formwork will be used. The silos have been designed to metric dimensions in materials readily available in Russia. All drawings and other documents have been prepared in both Russian and English and technical discussions have taken place with Soviet engineers during the design stage.

### NEW MAJOR WORKS FOR SNOWY PROJECT

Tenders have been called, both in Australia and overseas, for two more major works in the Snowy Mountains Hydro-Electric Project.

The works are the Island Bend Dam and the Snowy-Geehi Tunnel. The dam, a concrete structure 135ft. high with a crest length of about 470ft., will be used to store water diverted from the Snowy River or from Lake Eucumbene.

The Snowy-Geehi tunnel will be used to divert water from the Snowy to the new dam. It will be about nine miles long when completed, but the present tender is for about three and a half miles of tunneling.

The contract for another tunnel, providing access to the 15-miles-long Eucumbene-Snowy Tunnel, has been let to the Australian firm of Theiss Bros. Pty. Ltd., who recently completed the Tooma dam and the 10-mile Tooma tunnel several weeks ahead of schedule.

### PROJECTS IN PORTUGUESE EAST AFRICA

It is reported locally that some £980,000 has been authorised for expenditure under the second Development plan on capital works in Portuguese East Africa states Barclays Bank D.C.O. from Lourenco Marques. These include the bridge over the Limpopo river at Vila de Joao Belo; the bridge over Chicumbe; the levelling of the low-lying land at Chicumbe and various viaducts to be built in this area. This work has to be completed within a period of just under three years.

A start is also to be made during 1961 on a motor road from Lourenco Marques to Machava.

### TAYLOR WOODROW CANADIAN CONTRACT

Taylor Woodrow (Canada) Ltd., have been awarded a \$660,000 contract for a block of offices at Jarvis Street, Toronto, for the Anglican Church of Canada.

The new building will be steel framed and have a brick veneer. The foundations are being poured to permit a further two storeys to be added when necessary. Completion is due in March 1962. The architects are Mathers and Haldenby, Toronto.

### GENERATING POWER FROM INDIAN OCEAN

**T**O reduce its electricity costs, the island of Mauritius is studying ways of using the Indian Ocean rollers which pound its shores to generate electricity. Model tests to assist the investigation have been carried out at the Hydraulics Research Station, D.S.I.R., at Wallingford, in Berkshire.

Mauritius lies in the path of the south-east Trades, and for the greater part of the year rollers 4ft. to 12ft. high break on the coral reefs on its southern and eastern coasts. At one point on the coast, at Souillac, the coral reef almost encloses a shallow lagoon which is drained at low tide. If the enclosure of the lagoon were completed, the result would be a reservoir constantly replenished by breakers. The rise and fall of the tide is slight, so it would be possible to guide the breakers into the lagoon by means of a concrete ramp on the seaward side of the reef.

The Central Electricity Board of Mauritius is considering proposals to generate power by using this impounded water to supply turbines operating on a low head. In the first stage of the scheme, an installed capacity of 9,280-kW is planned, but it is expected that eventually an output of 44,000-kW could be obtained.

#### Ramp Design

At the request of the Board's consulting engineers, tests were carried out at the Hydraulics Research Station to discover the most suitable design of ramp. Tank tests were made with 1:15 scale models in which the crest of the ramp represented various heights up to 12ft. above mean sea level, and combinations of various gradients of the reef and ramp were used. The height of the waves ranged from 2ft. to 10ft., and their intervals from six to 10 seconds.

The tests showed that a ramp with a fixed crest to match the most prevalent wave conditions would be the best solution, and as a first step to a final economic study of the project, apparatus to measure the height and frequency of the waves has been installed on the Mauritius coast.

### PORTUGAL TO BUILD LEYLAND VEHICLES

A further extension to its world-wide marketing and manufacturing organisation has been made by the Leyland Motors Group, with the formation of a new company in Portugal which will assemble and eventually manufacture Leyland trucks, buses and diesel engines.

Known as Leyland Portuguesa Ltda., the new company has been formed in association with Francisco Garcia et Cia Ltda, Leyland's former Portuguese distributors. A modern plant is now being built at Setubal, twenty miles south of Lisbon, which is expected to be in operation by October.

The new company will develop vehicles specially designed for the Portuguese market, though at the first stages of manufacture it will concentrate on the production of standard Leyland Group models.

Arrangements are now being made for an interchange of personnel between the two organisations. Leyland will supply planning and production engineers until a sufficient number of Portuguese technicians have been trained at the Group factories.

### RESERVOIR WILL COST OVER £A2M.

A new reservoir is to be built on the Torrens River in South Australia to serve Adelaide's growing population. The Premier, Sir Thomas Playford, said the reservoir would be at the Torrens Gorge, a few miles north-east of Adelaide. Together with a scenic road it would cost about £A2,250,000.



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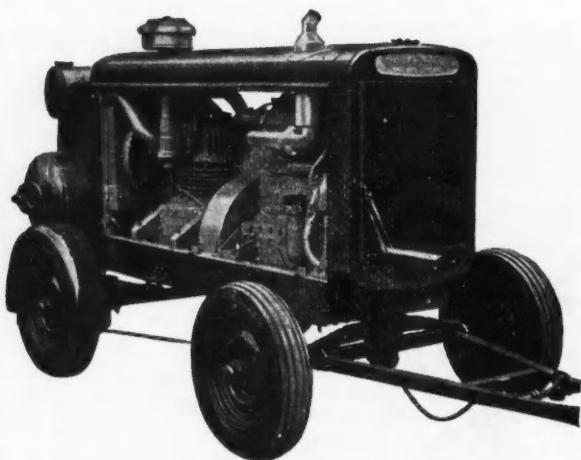
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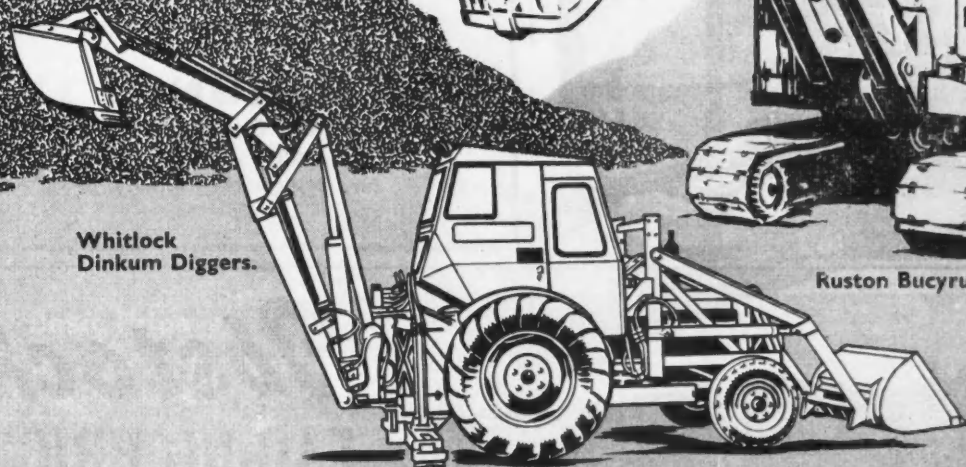
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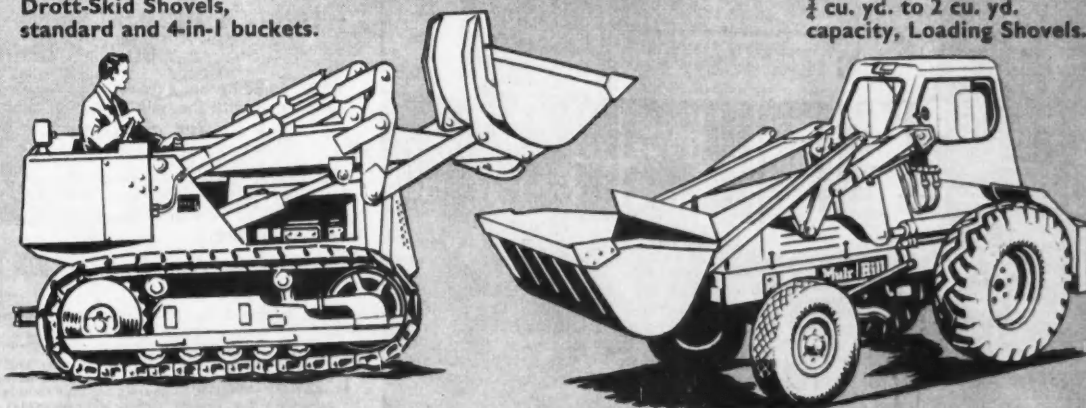


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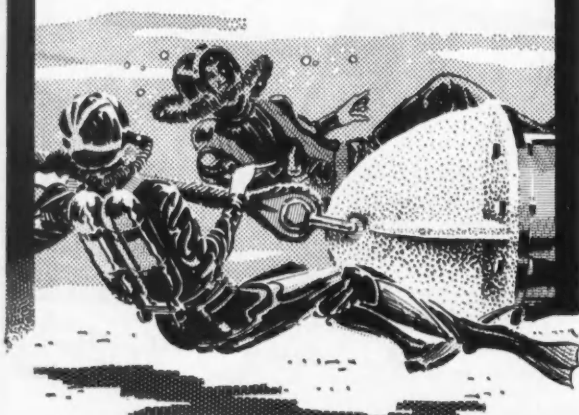
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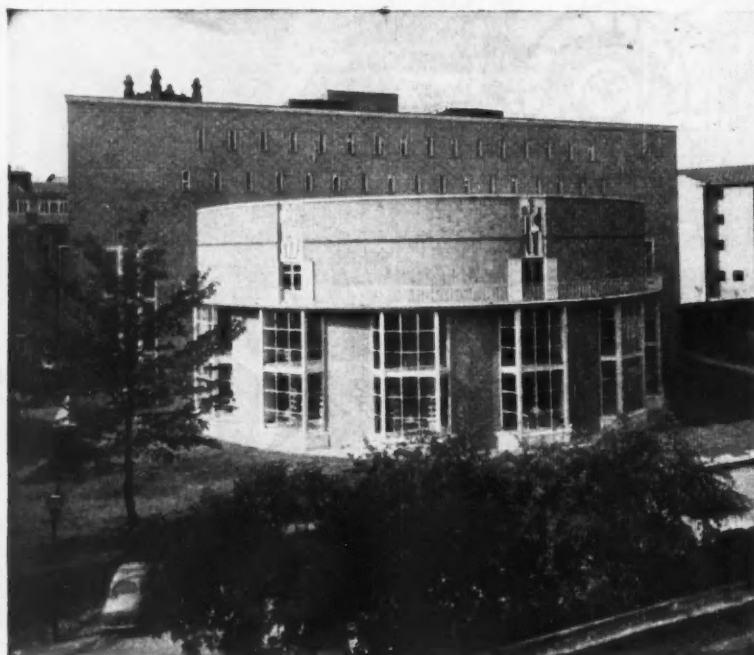
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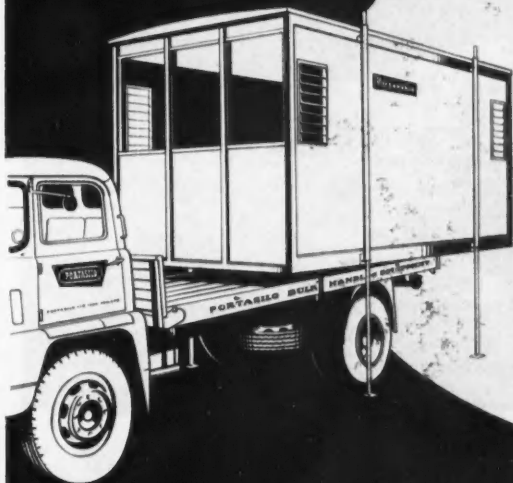
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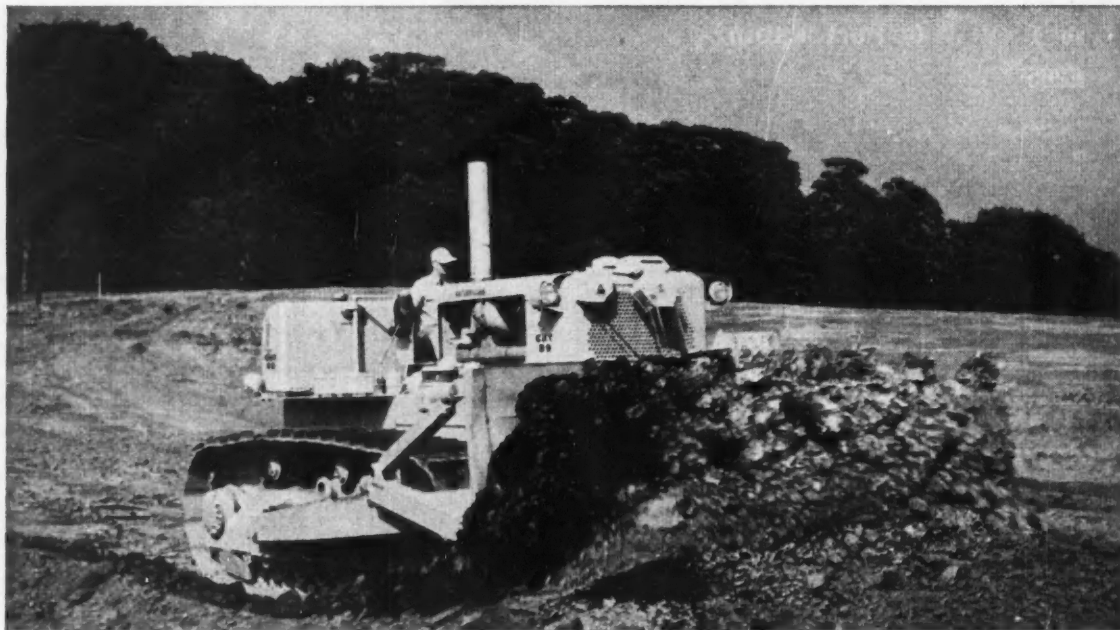
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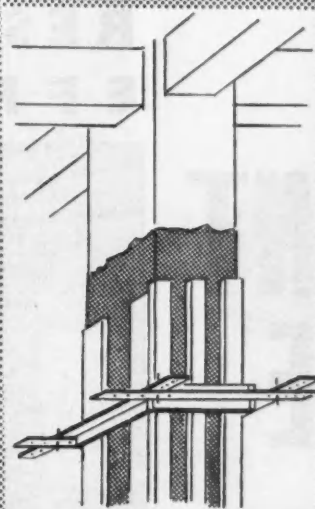
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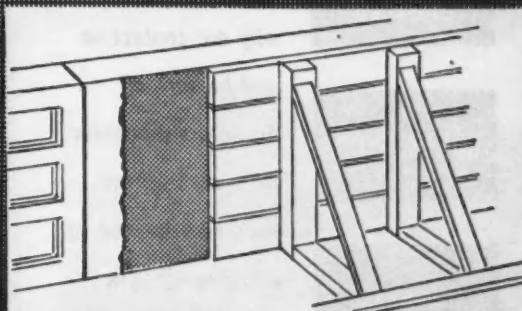
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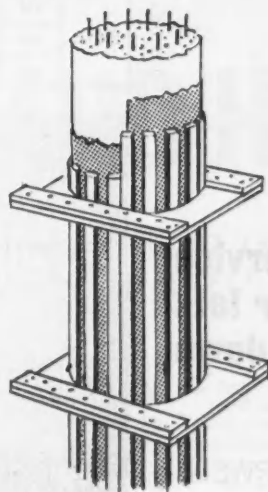
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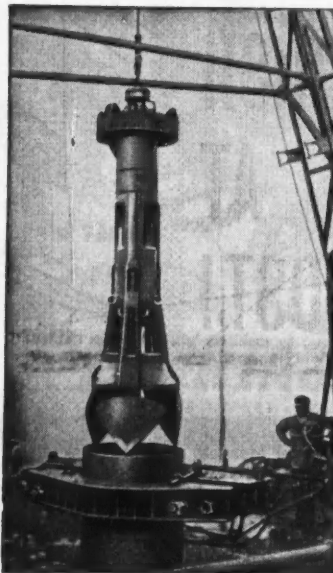
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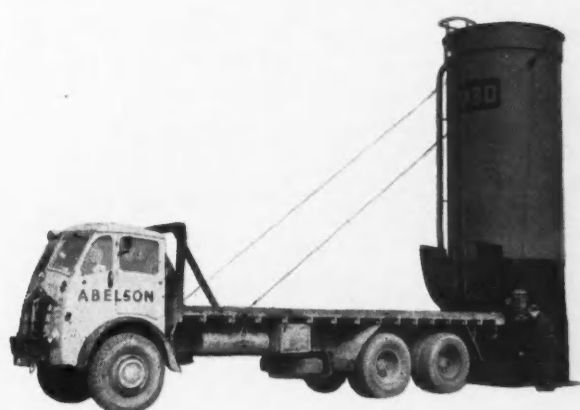
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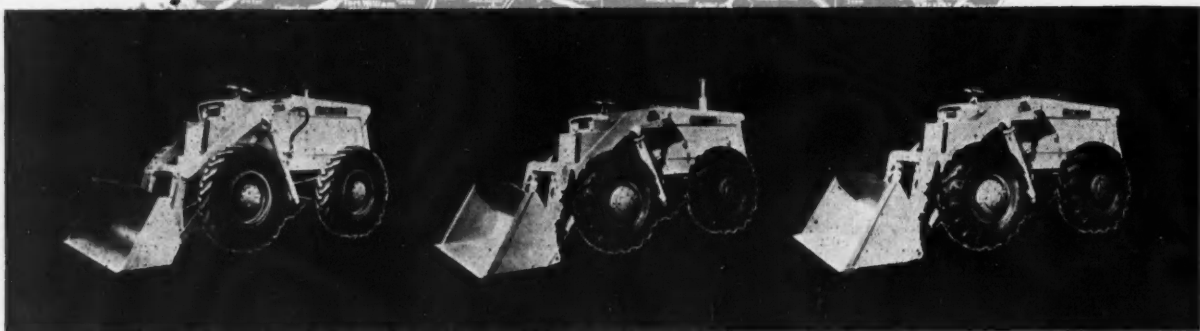
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(Continued from page 1480)

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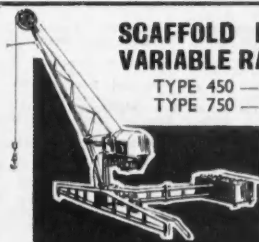
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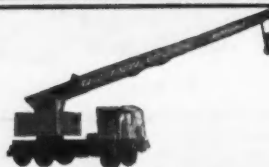
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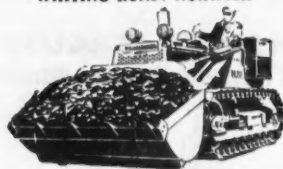
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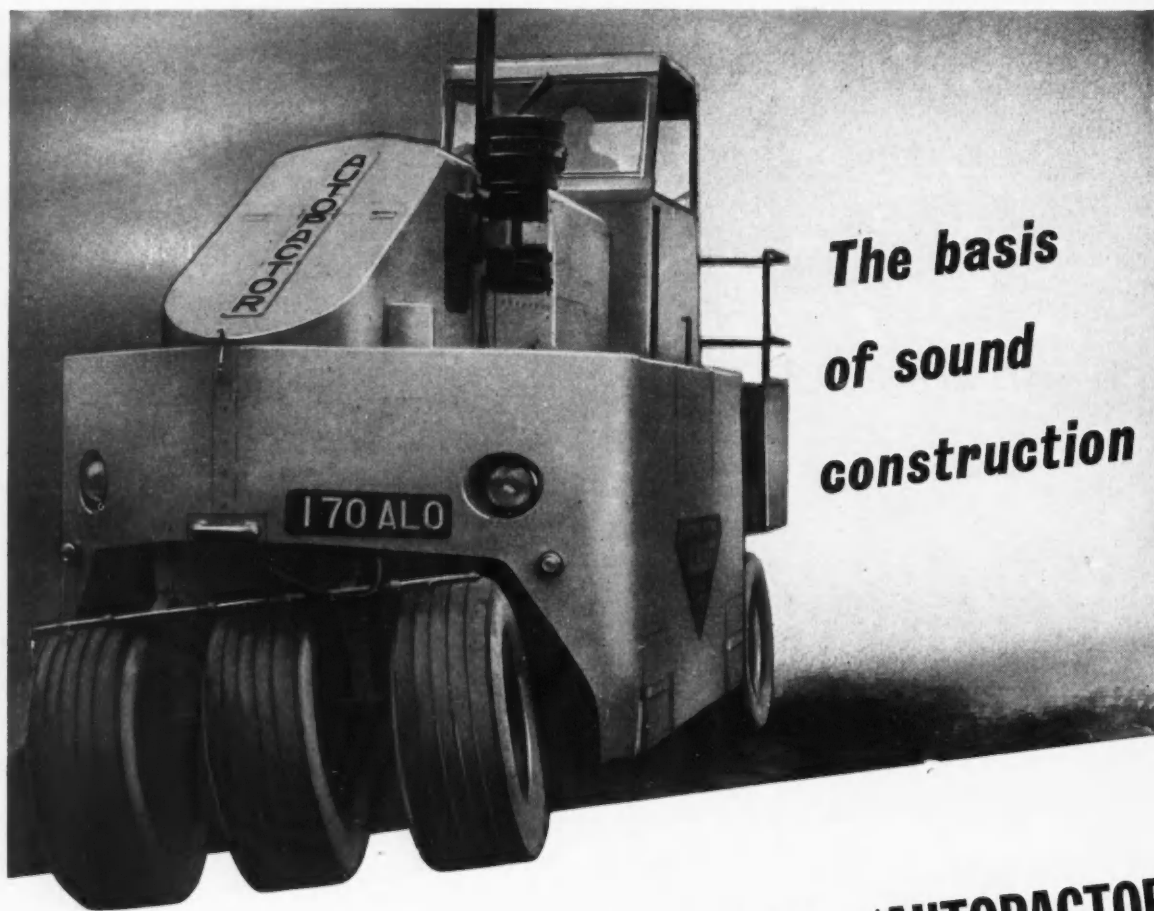
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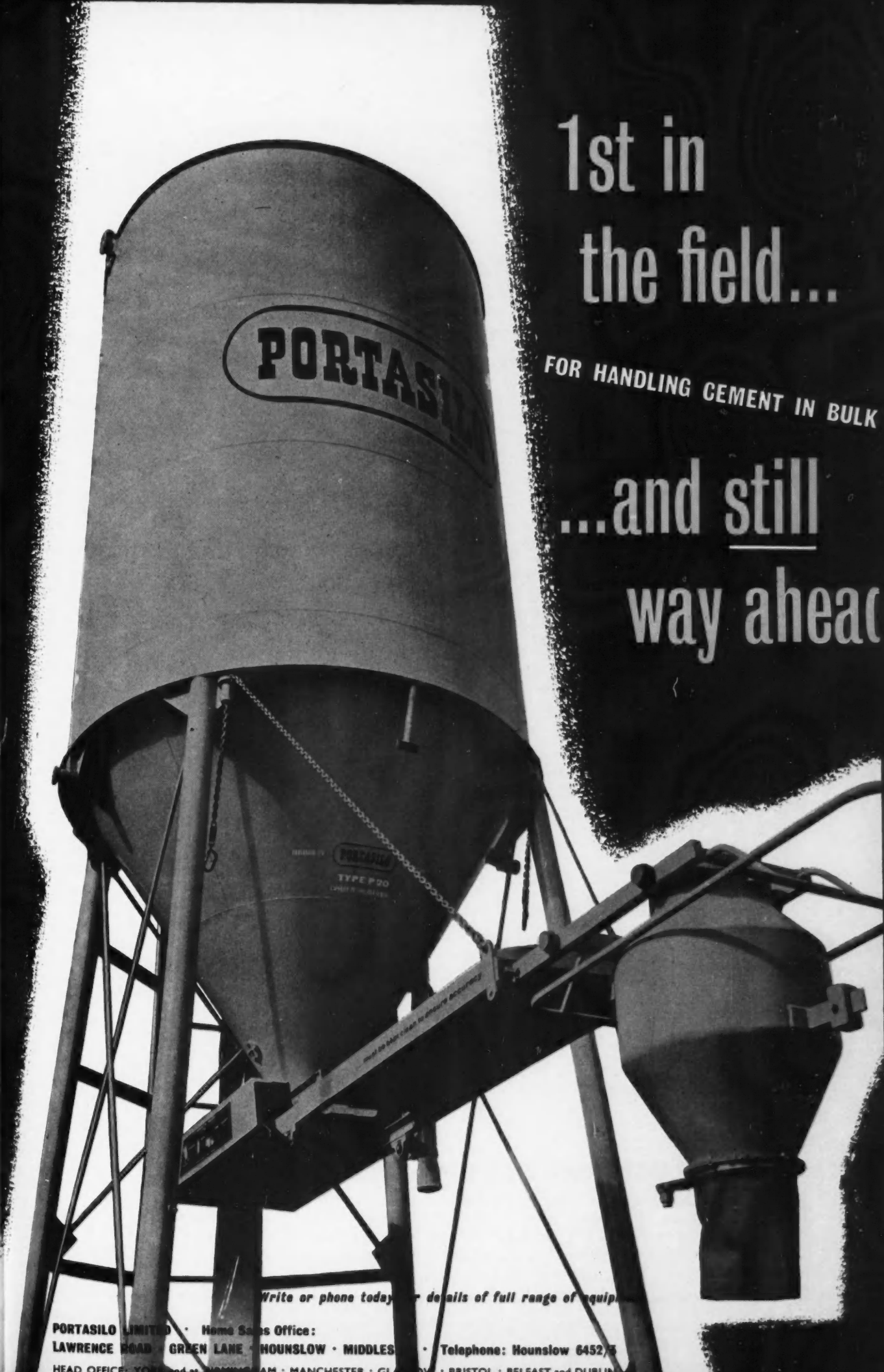
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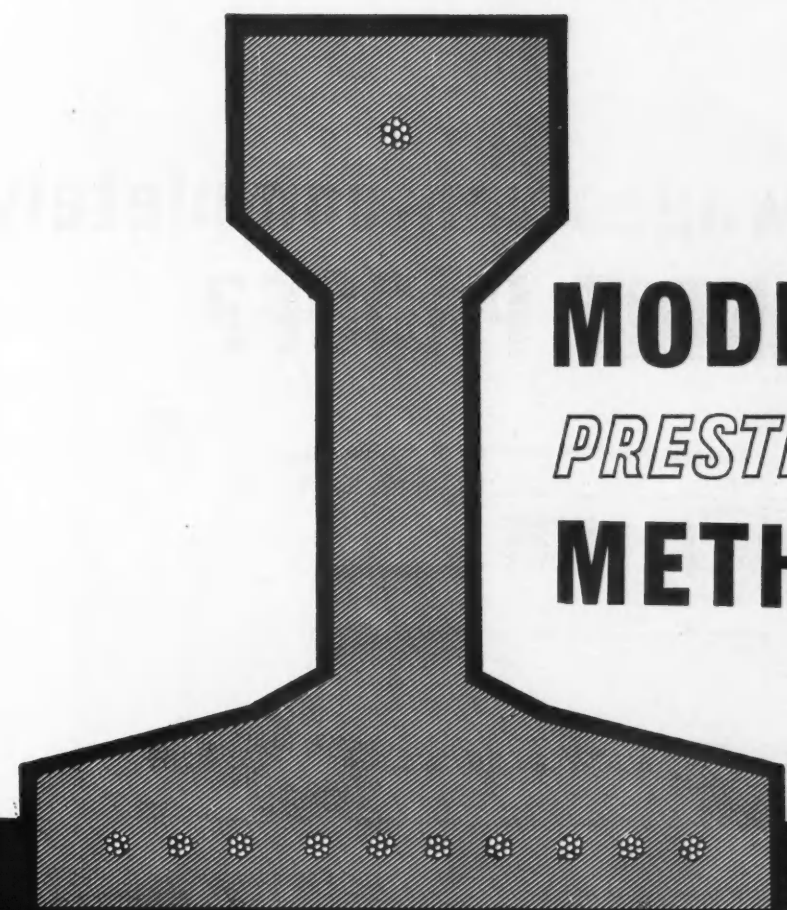
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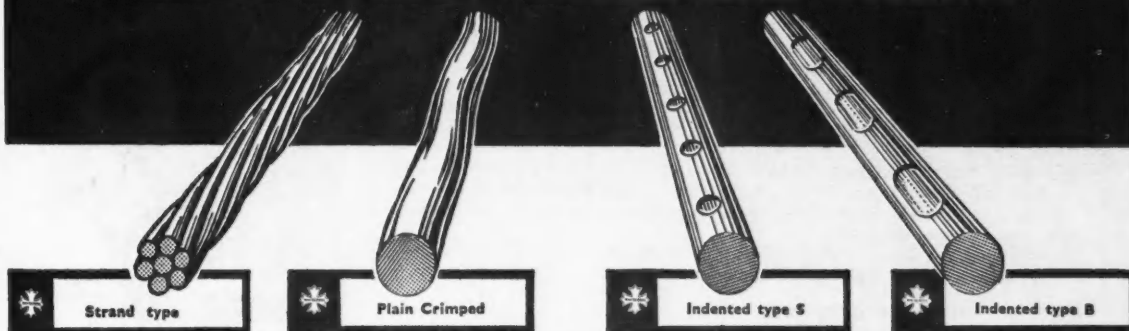


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# MODERN *PRESTRESSING* METHODS

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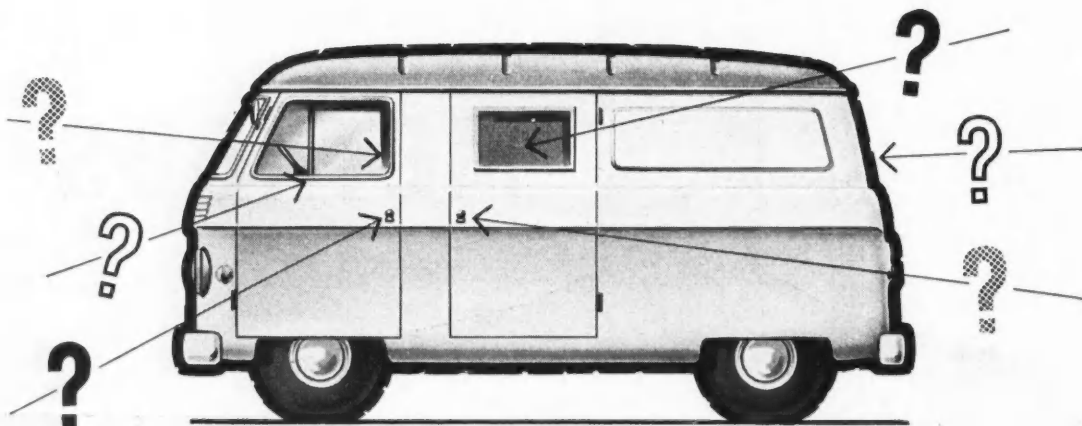
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We can supply you with a vehicle fitted with these proved security aids, or fit them to your own vehicle for you. The windows and windscreen all have removable grids. When you want to use your van for other purposes, you just neutralise the security aids with a special key.

But first, you'll want to see a demonstration. Write or phone us now so that we can arrange one at a time convenient for you.

### OTHER SECURITY AIDS

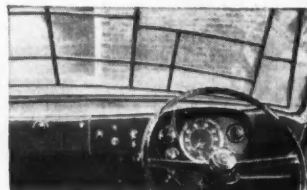
**Car immobiliser**—completely immobilises any vehicle the moment the ignition key is removed. Automatic . . . sounds intermittent warning siren if a vehicle is tampered with.

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**Wages case**—in metal, with compartments for 200 or 350 wage envelopes. Fitted with alarm unit.

**Portable car wages alarm**. To fit before a vehicle goes to collect to distribute cash. Alarm sounds the moment alarm button is touched.

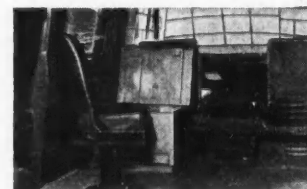
**Guard-all**. Leather case housing metal safe with Chubb 6-lever security lock. Klaxon sounds if case is snatched—audible for 250 yards.



Alarm system. Once you've turned ignition key and set immobiliser knob, no one can get in or out of vehicle without sounding alarm.



Grid for paying out window protects cashier inside. Ideal for paying out on sites. Bolts and locks for all doors. All grids detachable.



Detachable safe fitted to frame inside vehicle—complete with alarm. Holds up to £20,000 in £ notes. Metal bar to protect rear of van.

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MANUFACTURING COMPANY LIMITED

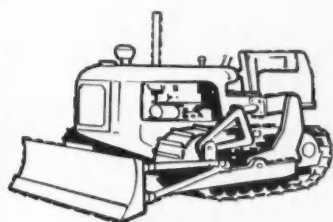
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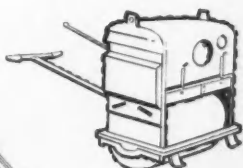




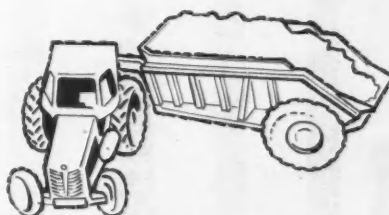
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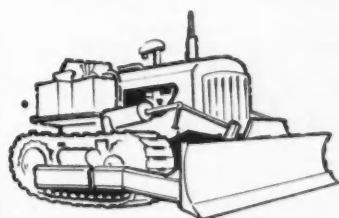
Caterpillar Tractors



Vibrating Rollers



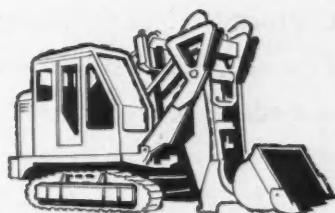
Shawnee Pooles



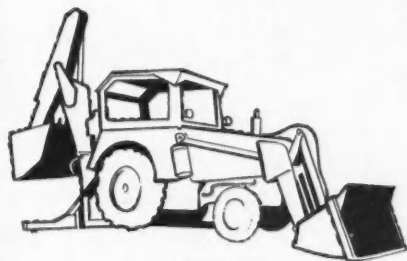
Track Marshalls



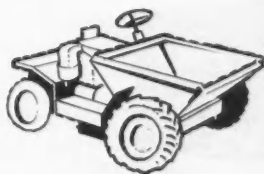
Marion Cranes



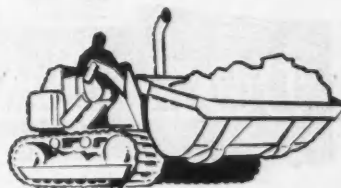
Blaw Knox Hydrascoops



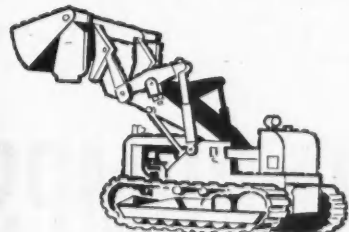
J.C.B.



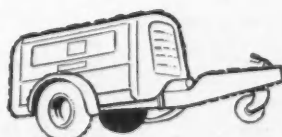
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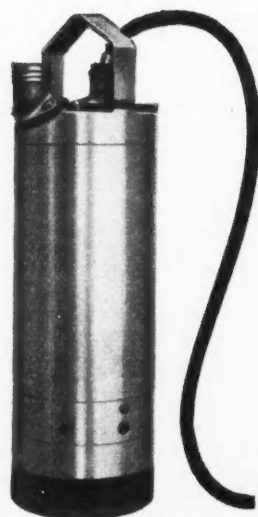
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It will work wherever it will stand, and in only 2" of water. It will pump air and water—'on snore'—indefinitely if the suction is partially uncovered. Being made of light alloy it can be easily handled over the most difficult ground.

Capacity: 6000 g.p.h. at 30 ft. head to 3000 g.p.h. at 50 ft. head. The 2" outlet can be vertical or angled.

Electrical Supply: 110 to 550 volts; 50 or 60 cycles, single or three phase. A built-in overload protection prevents the motor from overheating.

Dimensions: Diameter: 7½ in. Height: 2 ft. 2 in.—to top handle. Weight: 93 lbs. Price: £125.

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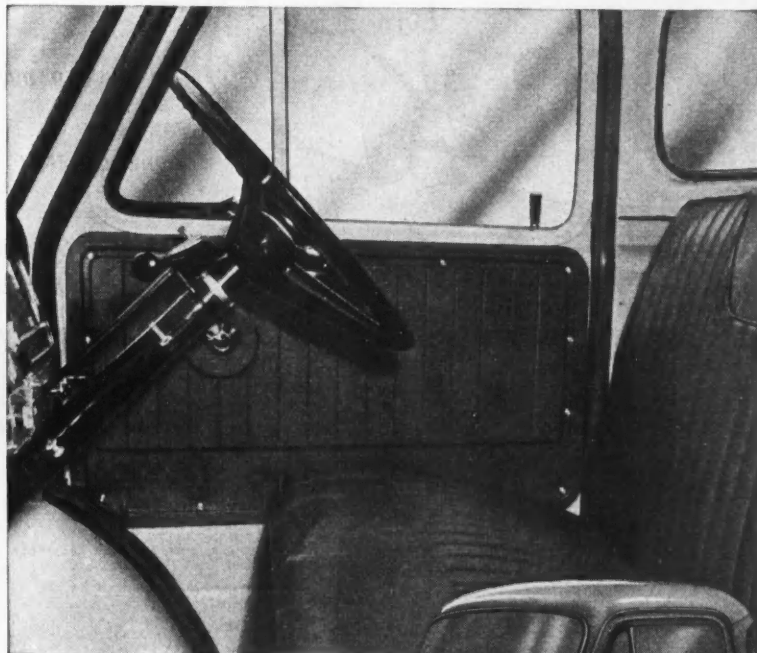
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**drives like  
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**plus  
luxurious  
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The new Bedford JO is boss transport in the modern manner. It's for rush orders and rush jobs... for the fast transportation of men, and equipment... for the supervisor on the site... and, above all, it's the truck which the boss himself will be pleased and proud to drive.

Full details from your local Bedford dealer.



## Quick facts about

### the new Bedford JO

- 2.6 litre, 105 brake horse-power Vauxhall 6-cyl. engine
- Luxurious, three-passenger Velox seating
- Half-ton load rating. Gross rating 4600 lb.
- Long, semi-elliptic springs front and rear, with double-acting shock absorbers for good riding qualities under varying conditions
- Pick-up body measures 78" long x 66" wide. Dropside body measures 72" long x 69" wide x 13" high sides
- Overall length 15'2", overall width 6'8" Taxation weight 1 ton 8½ cwt.

**Power-wise**... new 2.6 litre, six-cylinder Vauxhall engine... docile and easy to drive in traffic... superb acceleration and fine turn of speed for the open road.

**Comfort-wise**... really luxurious seating for three big men... steering column, all-synchro gear change... and right in all detail design with features such as big, well-spaced pedals for wellington boots.

**Value-wise**... from the Bedford stable with all that that implies in rugged dependability, low upkeep and easy maintenance. Complete with dropside body the Bedford JO costs £599. (£627 with pick-up body illustrated.)

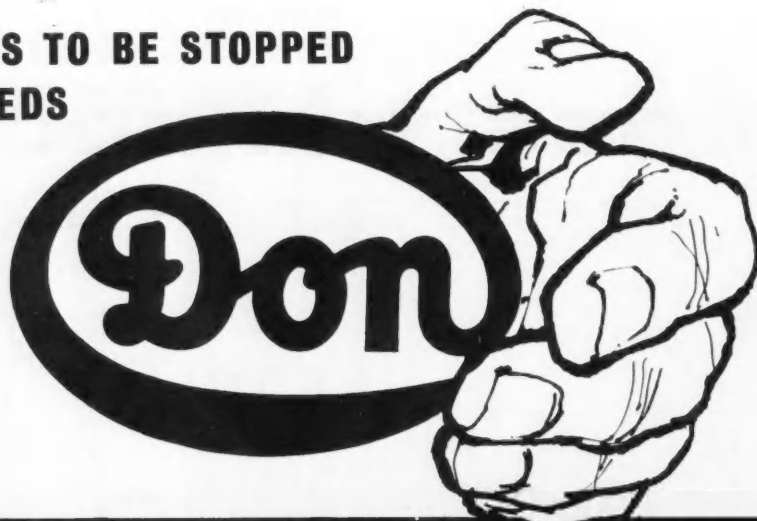
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**Draining  
the  
Doncaster  
By-pass**

# **RAINBOW**

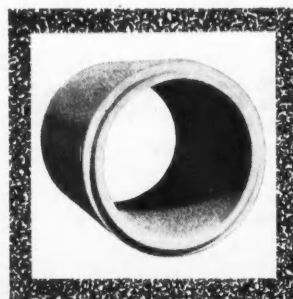
concrete porous pipes

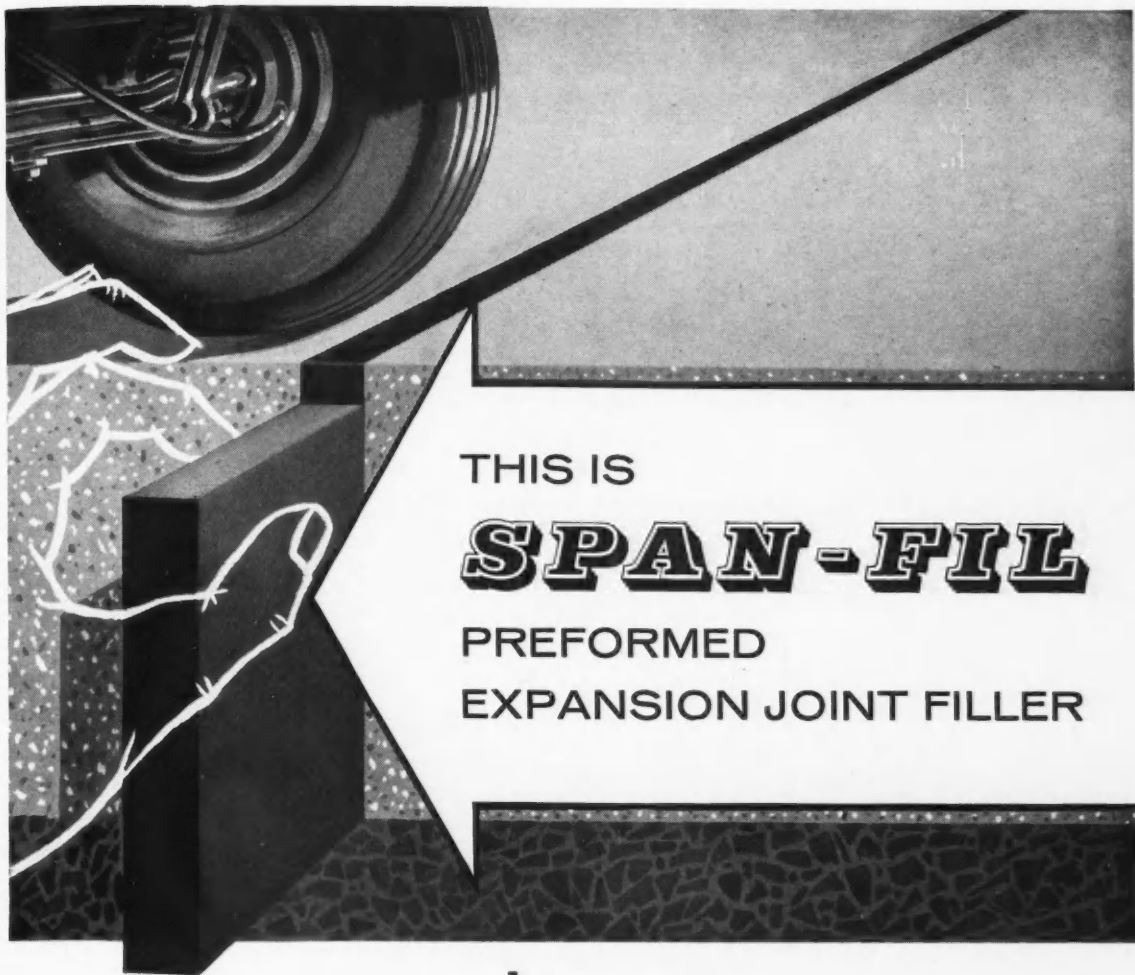
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EXPANSION JOINT FILLER

- \* Thicknesses up to 1"
- \* Does not extrude—recovers after compression
- \* For roads, runways, floors or walls
- \* In over 200 different sizes from 4ft x 2" x  $\frac{3}{8}$ " up to 10ft x 48" x 1"

Due to its scientifically designed construction SPAN-FIL can be placed in position and the concrete then cast directly up against it without distortion. Special shuttering to protect the material is thus eliminated.

SPAN-FIL is unaffected by road or runway grades of sealing compounds and conforms to Air Ministry Specification 201/58 Part III Clause 606.

**Every expansion joint needs SPAN-FIL**

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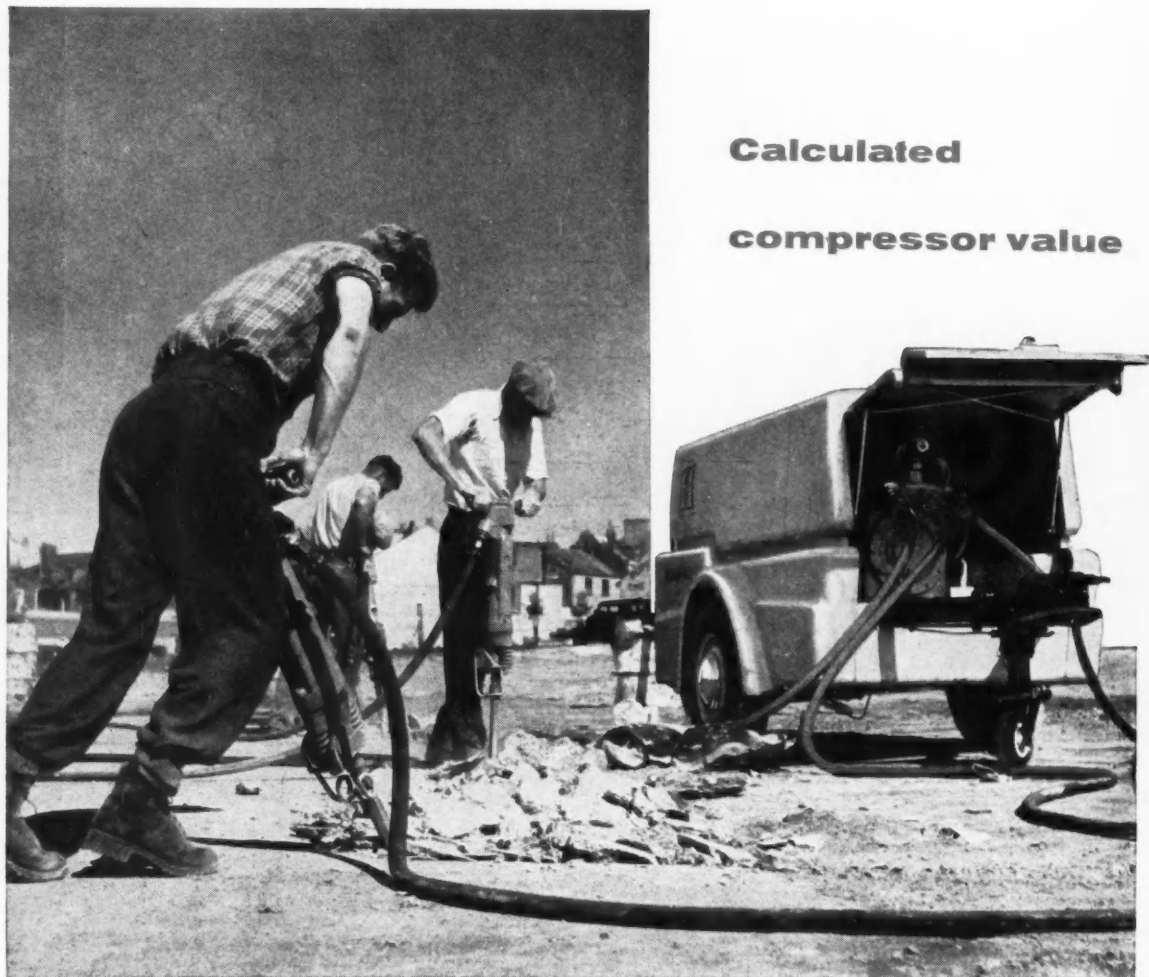
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## Calculated compressor value

### The Rotair 150 portable rotary screw compressor

Compressed air at minimum cost is produced by the new Holman Rotair 150 portable rotary screw compressor.

Pulsation-free delivery of 150 cu.ft. of air per minute at 100 p.s.i. in one stage ensures high efficiency. Because of its capacity, initial cost and particularly low upkeep, the price of compressed air per cubic foot delivered is lower than for competitive machines. This calculated compressor value adds up to the finest 3-tool machine on the market.

Wear is negligible because positive clearances prevent metal-to-metal contact between the rotors and between the rotors and their casing. Literally no maintenance is necessary.

Rotair portable rotary screw compressors are available with outputs up to 600 c.f.m.

Write for publication 19/SP

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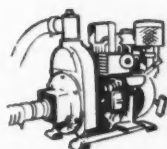
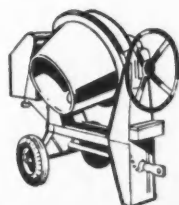
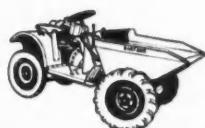
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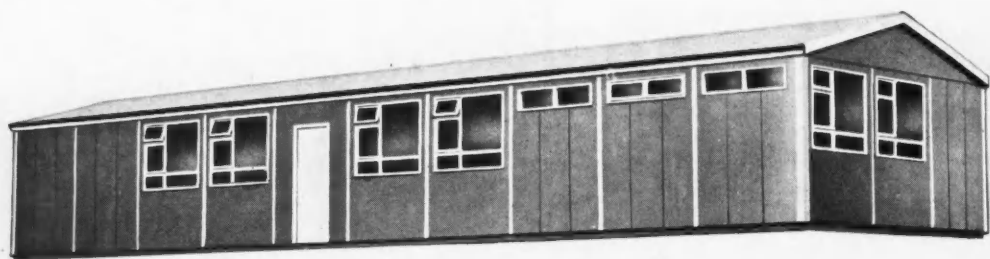
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*Sizes from 2½ cubic yards to 9 cubic yards*

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- saving in weight
- bigger, more profitable pay-load
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- maintenance costs sink lower still
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## AIR COOLED DIESEL ENGINES

**1½ to 72 h.p.**

This Selection Chart shows continuous H.P. ratings at varying speeds and will help you to choose the most suitable Lister air cooled engine for any duty.

### Speed Variations:

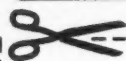
2/1 reduction gear available for all these engines, gives full power at half the speeds shown.

3/1 reduction<sup>1</sup> gear available for LD and SL range, gives full power at one third the speeds shown.

Variable Speed control is available for all these Engines.

Keep this Chart for future reference—write for further copies and for more detailed information on the engines listed or for Water Cooled Engines—power range 1½-1600 B.H.P.

Stand B60,  
International Construction  
Equipment Exhibition,  
Crystal Palace, June 15-24



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sealed envelope.

Please send details of Lister air  
cooled diesel engines.

We are particularly interested

in (state H.P.).....

for (purpose).....

Name.....

Address.....

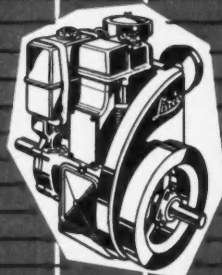
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### SELECTION CHART

B.H.P. continuous rating	MAINSHAFT SPEEDS IN REV/MIN.							
	750	850	900	1000	1200	1500	1800	2000
1.5	LD1							
1.7		LD1						
1.8			LD1					
2				LD1				
2.4				SL1	LD1			
2.9					SL1			
3	LD2					LD1		
3.4		LD2						
3.5							LD1	
3.6			LD2			SL1		
4				LD2				
4.25							SL1	
4.75								SL1
4.8				SL2	LD2			
5.8					SL2			
6						LD2		
6.6	VA							
7							LD2	
7.2				SL3		SL2		
7.5		VA						
8.5							SL2	
8.7					SL3			
9.5								SL2
9.6				SL4				
10.8						SL3		
11.5					SL4			
12				HA2				
12.75							SL3	
14.4						SL4		
15.5					HA2			
17							SL4	
18				HA3				
19						HA2		SL4
22							HA2	
23.25					HA3			
24								HB2
28.5						HA3		
33							HA3	
36					HA6			HB3
46.5						HA6		
57							HA6	
66								HA6
72								HB4



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Edinburgh



### THEY ARE THE CHEAPEST WAY OF MUCK-SHIFTING I KNOW'

- ★ Real value for money
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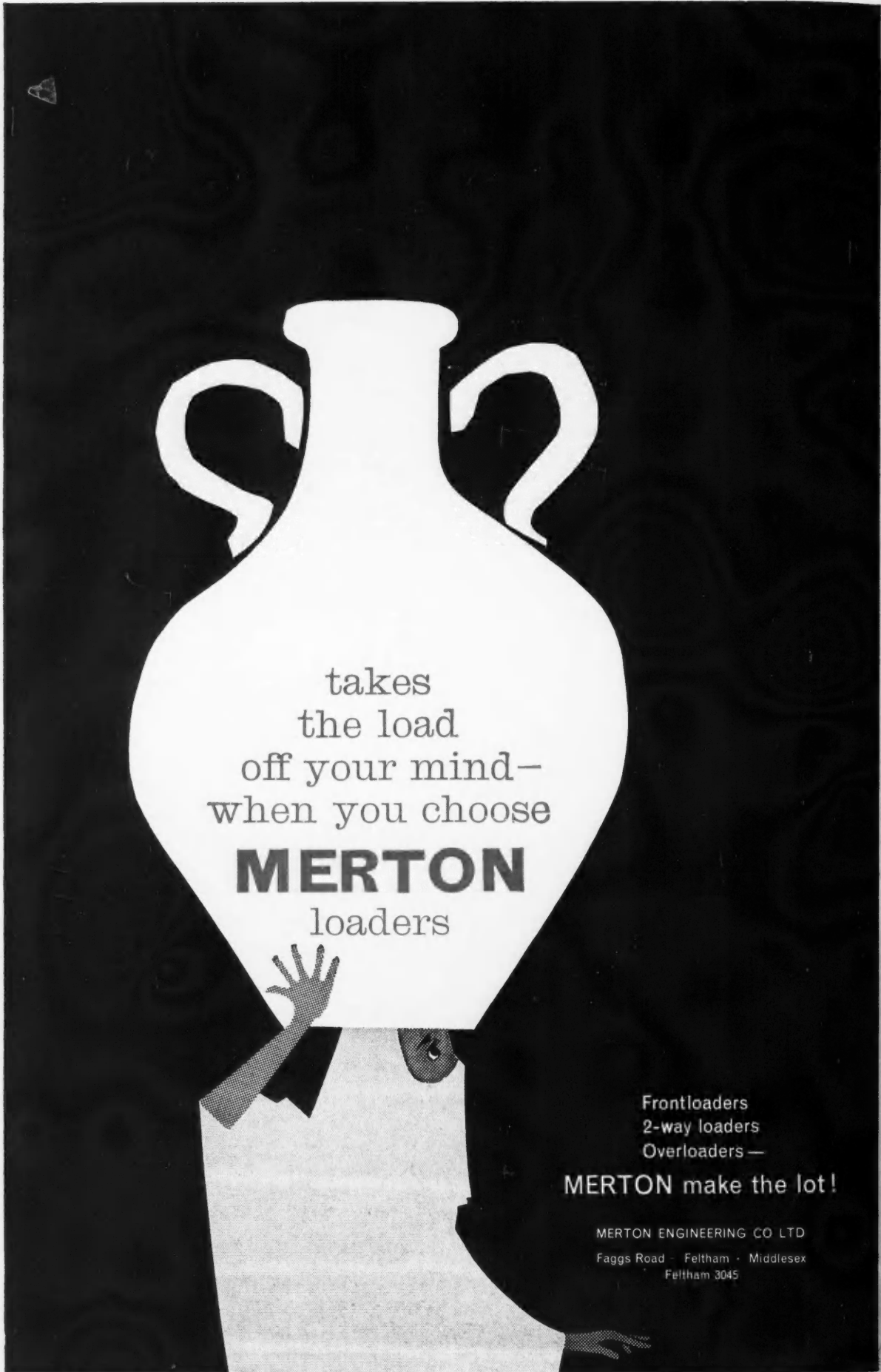
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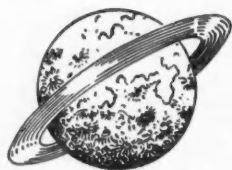
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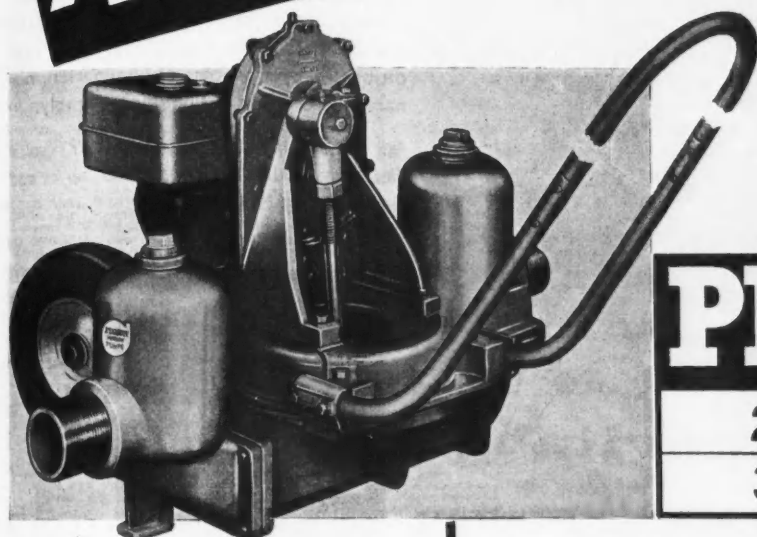
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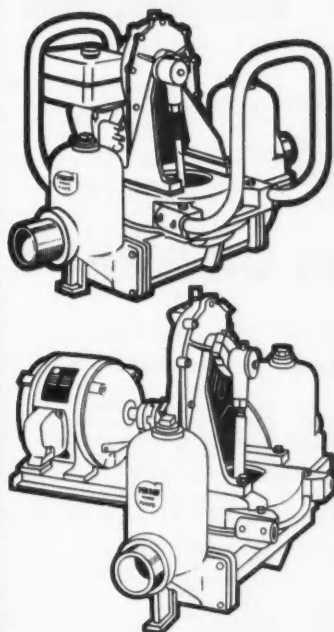
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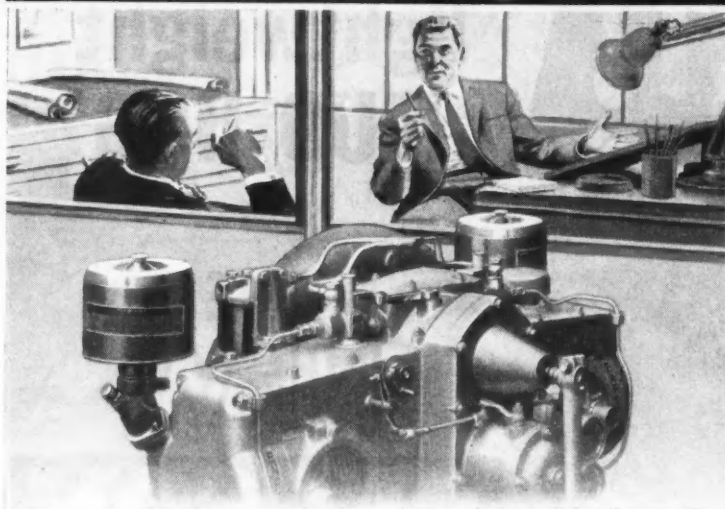
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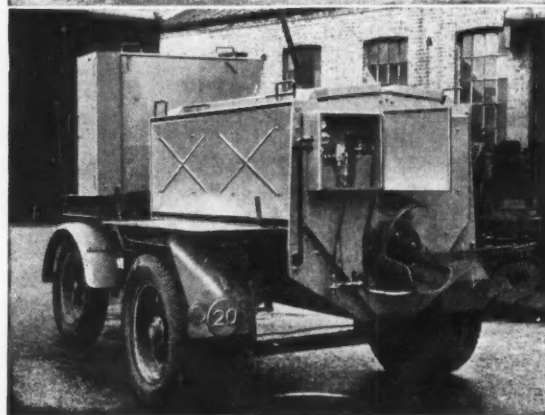
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**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowham 3171—15 lines.) (For details, see Nottinghamshire.)

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**COFF, HARRY A., LTD.**, Buckhurst Hill, Chesham, Ascot, Berks. (Tel.: Ascot 1026/7.) Sand, all grades of washed aggregates, hardcore, clinker, ashes and hoggins.

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**HAINES, H. (WITNEY), LTD.**, Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone, Cotswold building and walling stone.

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**HALL AND CO., LTD.**, Manor Road, Romford. (Tel.: Romford 4232.) Pits at Upminster, Boreham and Linford, near Grays. Gravel aggregates, concreting, plastering and building sand.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowham 3171—15 lines.) (For details, see Nottinghamshire.)

**HUNNABLE, F. A., AND SON, LTD.**, Rayne Road, Braintree, Essex. (Tel.: Braintree 151 and 1351.) Graded washed stone, 1 in. to rejects; washed concreting sand and washed soft building sand. Classified sand for asphalt. Ready mixed concrete to all grades. Pits at Braintree, Bocking, Beasley End, Hedingham and Alphamstone.

**KENRICK, W., LTD.**, 92 Waterloo Road, Romford, Essex. (Tel.: 42481/2.) Supply and deliver all grades of sands, ballast and shingle, asphalt grits, granite aggregate. Rubbish clearance. Tip available at Upminster.

**LEIGH BUILDING SUPPLY CO., LTD.**, Head Office: 956 London Road, Leigh-on-Sea, Essex. (Tel.: 78264—5 lines.) All grades washed materials, building sand, hardcore, ashes, bricks, granite.

**PETERS AND BARNHAM, LTD.**, 40 South Street, Romford. (Tel.: Romford 44141—7 lines.) Washed and crushed gravel, all sizes. Sand and gravel pits at Chesham, Chigwell, St. James, Dagham, Great Waltham, North Oxendon, Roswell, West Thurrock.

**PINCH, L. A. AND A., LTD.**, Upper Rainham Road, Northfleet, Hornchurch, Essex. (Tel.: Hornchurch 48912/3/4.) Haulage, all aggregates, high-grade sand, ballast and shingles supplied and delivered; also ready-mixed concrete.

**ST. ALBANS SAND AND GRAVEL CO., LTD.**, London Colney, St. Albans, Herts. (Tel.: Bowmans' green 2271.) Pits at Meadgate Road, Nazeing; Station Road, Waltham Abbey.

**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4 and Halesstead 2323.) Pits at St. Ives and Halesstead, near Halesstead.

**STANWAY CONTRACTS, LTD.**, Upper Edwards Hall, Eastwood, Southend-on-Sea. (Tel.: Eastwood 55161.) Sand and gravel pits at Rochford and Woodham. Washed aggregates supplied to all grades.

**WIVENHOE SAND, STONE AND GRAVEL CO., LTD.**, Wivenhoe, near Colchester, Essex. (Tel.: Wivenhoe 231.) High quality washed aggregates of all grades.

## GLOUCESTERSHIRE

**BENGRY AND SONS, LTD.**, Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 101/4.) (For details under Herefordshire.)

**COKE, T. F., (CHELTENHAM), LTD.**, 267 Gloucester Road, Cheltenham. (Tel.: Cheltenham 4717/4874.) Sand, graded gravel aggregates, hardcore, limestone, chippings, tinned and bituminous limestone, concrete blocks, fence posts, etc.

**CROMHALL QUARRIES, LTD.**, Cromhall, Wotton-under-Edge, Glos. (Tel.: Falded 346/7.) Concrete aggregates, pre-graded, in large quantities. Tarmacadam, tarpaving, bituminous macadam and cold asphalt to B.S. for hand or machine laying.

**GRIFFITHS, A., AND SONS**, Churchdown, Gloucester. (Tel.: Churchdown 3135 and 2216.) Pit, quarry and dredger owners. All grades and types aggregates and materials.

**HALL AND CO., LTD.**, Longmoor House, Ashton Vale Road, Bristol, 3. (Tel.: 63001.) Gravel aggregates, concreting, plastering and building sand.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowham 3171—15 lines.) (For details, see Nottinghamshire.)

**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing Engineering and Common Bricks in terra-cotta, red and golden brown. Concrete aggregates, road aggregates, and Dolomitic media.

**TAYMAC, LTD.**, Wootton Bassett, near Swindon, Wilts. (Tel.: Wootton Bassett 391—5 lines.) Cotswold stone, hardcore, washed and graded aggregates, building sand.

**WHITECLIFF QUARRIES AND BRICKWORKS, LTD.**, Coleford, Glos. (Tel.: Coleford 3158/9.) Tinned and bituminous limestone macadam, asphalt, concrete aggregates, dolomitic media, engineering, facing and common bricks for all purposes. Delivery road or rail.

Rates for insertion in this GUIDE will be forwarded on application



# CONTRACTORS' GUIDE TO AGGREGATES

## HAMPSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leeds.)

**BULL BROS. S. AND L., LTD.**, 126A High Street, Winchester. (Tel.: 2284.) Concrete aggregates (reconstituted, pit-mixed, weightbatched to meet any specification); also ballast, hoggin, path gravel and sand from own pits at Fawley, Lockerley, Ringwood, Romsey, Sway and Totton.

**DANGERFIELD, F. J., AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**HALL AND CO., LTD.**, Baltic Wharf, Marine Parade, Southampton. (Tel.: Southampton 21234), and at Portsmouth. Pits at Ringwood, Highbridge and Fawley. Gravel aggregate, concrete, plastering and building sand.

**HASKINS, G., AND SONS**, Queen Street, Emsworth. For washed sand and graded aggregates, path and road gravels, hoggin, clinker, ashes. (Tel.: Emsworth 2271.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**MOREYS (VERWOOD), LTD.**, Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggin, path gravel.

**NEW MILTON SAND AND BALLAST CO.**, Lymington Road, New Milton, Hants. (Tel.: 37 and 566.) Guaranteed uncrushed, washed, screened and graded concrete aggregates. All sizes. Washed sharp and fine sands.

**PRIVETT, W. G., AND SONS, LTD.**, Drayton Lane, Portsmouth. (Tel.: Cosham 70059.) Concrete aggregates, building sand, hoggin, ashes, washed and graded filter media, etc.

**ALPH OF BASINGSTOKE, LTD.**, 37 Kempsott Lane, Basingstoke, Hants. (Tel.: 85.) Concrete aggregates, building sand, path gravel, hoggin, etc.

**TWICKENHAM GRAVEL CO., LTD.**, Ship Lane, Farnborough (Tel.: 1126); Sandhurst Road, Yateley (Tel.: 2230).

## HEREFORDSHIRE

**BENGRY AND SONS, LTD.**, Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) Suppliers of all grades of crushed concrete aggregates, road metallising, pitching stone, hardcore and coated macadam.

**ELEE HILL TRANSPORT AND ROLLING CO., LTD.**, Ludlow, Salop (Clehillstone 284). (See Shropshire.)

**OVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) All grades of tarred and bituminous macadam, roadstone, chippings and concrete aggregates, etc.

**OLD RADNOR TRADING CO., LTD.**, Kingston (Tel.: 421.) Granite and limestone aggregates coated macadam, concrete products.

**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington (Tel. 961), Salop.

**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. Concrete aggregates, roadstones, and Dolomitic media.

**WHITECLIFF QUARRIES AND BRICKWORKS, LTD.**, Colford, Glos. (Tel. 3158/9.) (See Gloucestershire.)

## HERTFORDSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leeds.)

**DANGERFIELD, F. J., AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**EASTWOODS SALES, LTD.**, Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Broxbourne pit. (Tel.: Hoxtondon 2456.) Producers and distributors of all grades of washed aggregates.

**GABRIEL, C., LTD.**, Palmers Lane, Enfield, Middx. (Tel.: HOWard 4351/2/3.) Washed aggregates and building sand. Pits at Hertford and Enfield.

**HALL AND CO., LTD.**, Railway Yard, Orchard Road, Stevenage (Tel. 775), and at Hatfield. Gravel aggregates, concrete, plastering and building sand.

**HARTIGAN, G. F. X., LTD.** (See Buckinghamshire.)

**ST. ALBANS SAND AND GRAVEL CO., LTD.**, London Colney, St. Albans, Herts. (Tel.: Bowmans-green 2271.) Pits at Smallford Lane, Smallford, and Bramfield Lane, Watford, Marsh Road, Stanstead Abbots.

**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hants. (Tel.: St. Ives 2441/2/3/4.) (See Huntingdonshire for details.)

**TWICKENHAM GRAVEL CO., LTD.**, Eleanor Cross Road, Waltham Cross. (Tel.: 2338/8.)

**WEBB, G., CAMBRIDGE**, 35 Magrath Ave., Cambridge. (Tel. 59966, 53969, 50353 (night).) (See Cambs.)

**WINFIELD HENRY, LTD.**, Pig Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamstead 1208/9.) Pits at Hemel Hempstead, Watford, West Hyde, Rickmansworth. Concrete aggregates, hoggin, building sand.

## HUNTINGDONSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leeds.)

**FERRERAND AGGREGATES, LTD.**, Northampton Road Quarries, Rushden (2354/5). (See Northants.)

**GRAVEL PRODUCTS (HUNTS), LTD.**, Little Paxton, St. Neots, Hants. (Tel.: St. Neots 308.) Pits at Little Paxton, St. Neots, Hants., and Blunham, Beds.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**NENE BARGE AND LIGHTER CO., LTD.**, Market Chambers, Peterborough. (Tel.: 5534/5), and Ship End Quarries, Wansford, near Peterborough. (Tel.: Wansford 384/5.) Roadstones, hardcore, broken stone, ballast, ashes, silica clay and sand.

**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hants. (Tel.: St. Ives 2441/2/3/4.) Producers of all grades of washed sand and gravel. Ready mixed concrete. Precast concrete of every description.

**WEBB, G., CAMBRIDGE**, 35 Magrath Ave., Cambridge. (Tel. 59966, 53969, 50353 (night).) (See Cambs.)

## KENT

**BRASTED SAND PITS**, Brasted, Kent. (Tel. 586.) London Office: 10A Ellery Street, S.E.15. (Tel.: New Cross 3337.) Soft and plastering sands, lime and sand-mix dry, hardcore, S.H. bricks, castles, etc.

**BROWN BROS. (SITTINGBOURNE), LTD.**, Chalkwell Road, Sittingbourne, Kent. (Tel.: Sittingbourne 330.) Sand, ballast, shingle, hoggin, hardcore, clinker, chalk, etc.

**CLUBB, J., LTD.**, Dartford, Kent. (Tel.: Dartford 25431.) Pits in North Kent, Medway area and Sevenoaks district. All washed and crushed gravel aggregates, concrete and building sand.

**DIAMOND TREAD CO. (1938), LTD.**, Ditton Court Quarry, Larkfield, near Maidstone. (Tel.: West Malling 3444.) Quarry owners, tarmac, bituminous macadam and dry road stone manufacturers and suppliers. Head Office: 21-22 Old Barge Lane, London, Tel. 4. (Tel.: City 7001—10 lines.)

**DIAMOND TREAD CO. (CHART), LTD.**, Swan Lane Quarries, Little Chart, Ashford, Kent. Quarry owners; tarmac, bituminous macadam and dry roadstone suppliers. All inquiries to Area Office: Ditton Court Quarry, Larkfield, near Maidstone. (Tel.: W. Malling 3444.)

**HALL AND CO., LTD.**, Canning Street, Maidstone. (Tel.: Maidstone 51051); and at Folkestone and Hayes. Pits at Lunford, near Larkfield, Riverhead. Gravel aggregates, concrete, plastering and building sand. Surecrete precision-mixed concrete.

**HARRIS, M. P., AND CO., LTD.**, Station Road, Paddock Wood, Kent (Tel. 385). (See Sussex.)

**TILBURY CONTRACTING AND DREDGING CO., LTD.**, Postley, Maidstone. (Tel.: Maidstone 55401/2/3.) Suppliers of tarred, bituminous and dry Kentish rapstone, sea walling, asphalt fillers, Scotch granite and kerbing.

## LANCASHIRE

**BROOMBYS, LTD.**, Sandaile, Milnthorpe. (Tel. 3251/2.) Westmorland. (See Westmorland.)

**BUCKTON QUARRY**, Broken stone, all grades. (Tel.: Mossley 123.) Or write Main Road, Oldham.

**CASTLETON SAND AND GRAVEL QUARRIES, LTD.**, Trows Lane, Castleton, near Rochdale. (Tel.: Castleton 57100.) Lee Quarries, Bacup. (Tel.: Bacup 287.) Washed pit sand, crushed washed stone aggregates; pitching stone.

**CROXEN GRAVEL, LTD.**, Cheadle, Stoke-on-Trent. (Tel.: Stoke-on-Trent 276/7.) Plant capacity, 2,000 tons per day.

**DUNNING AND SON, LTD.** (See Shropshire.)

**HARTLEY, JOHN W., LTD.**, Lundsfield Quarry, Carnforth, Lancs. (Tel.: Carnforth 100.) Large producers of highest quality washed sands, clean pit sand, natural pebble and crushed gravel aggregates for all construction purposes.

**HILTON GRAVEL, LTD.**, Rice Street, Liverpool Road, Manchester, 3. (Tel.: Manchester 5455 and 5456.) Quarries at Cheadle, Staffs. (Tel.: Yeon 241.) And at Longton, Stoke-on-Trent. (Tel.: Longton 32196.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**HULLAND GRAVEL CO., LTD.**, Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2323/4, 2119 and 2195.) Manchester Office: 293, Chorlton, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)

**KELMAC, LTD.**, 54 Deepdale Road, Preston, Lancashire. (Tel.: Preston 84688/9.) Bituminous, tarred and waterbound macadam, roadstone, gravel, washed and graded limestone aggregates. All to B.S. and M. of T. Specifications.

**PENMAENMAWR AND WELSH GRANITE CO., LTD.**, all sizes and gradings of crushed granite aggregate. Immediate delivery ex stock.

**Liverpool and Preston Depots:**  
Office: 7 Pictorial Road, Liverpool, 15.  
(Tel.: Sefton 7261.)  
Manchester Depot:  
Office: Cornbrook Road, Manchester, 18.  
(Tel.: Trafford Park 6830.)

**TERN HILL SAND AND GRAVEL CO., LTD.**, Alimington Quarries, near Market Drayton, Staffs. (Tel.: Hale 261/2/3.) (See Staffs. for details.)

**TRENTHAM GRAVEL CO., LTD.**, Lonsley Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concrete sand. Plastering sand. Plant capacity: 2,000 tons per day.

**WITHERS LIMESTONE, LTD.**, Black Lane Quarry, Clapham, via Lancaster. (Tel.: Clapham 318/9.) Works Tel.: Ingletton 231. All sizes and gradings of Ingletton granite aggregate.

## LEICESTERSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leeds.)

**DANGERFIELD, F. J., AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**CLIFFE HILL GRANITE CO., LTD.**, Markfield, near Leicester. (Tel.: Markfield 561/2/3.) Granite aggregates to B.S. All sizes. Tarred and bituminous granite, concrete, slabs and kerbs. 'ain. washed granolithic aggregate.

**DUSTON STONE QUARRIES, LTD.**, New Duston, Northampton. (Tel.: 278 and 298; Duston 505.) (See Northamptonshire.)

**ENDERBY AND STONEY STANTON GRANITE CO., LTD.**, 21 New Walk, Leicester. (Tel.: 20891.) Quarries at Enderby, Leicestershire. 29 Dorset Square, N.W.1. (Tel.: Amp. 1141.)

**HILTON GRAVEL, LTD.**, Hemington Fields, near Shardlow, Derby. (Tel.: Shardlow 266.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**MOUNTSORELL GRANITE CO., LTD.**, 21 New Walk, Leicester. (Tel.: 20891.) Quarries at Mountsorell, near Loughborough. 'ain. pink granite a speciality. London Office: 29 Dorset Sq., N.W.1. (Amp. 1141.)

**WANLIP GRAVELS, LTD.**, Wanlip Road, Syston, Leicestershire. Any size or grading, scientifically balanced ballast. All to B.S. (Tel.: Syston 2521 and 2522.)

**WREAKE VALLEY GRAVELS CO., LTD.**, Melton Mowbray. (Tel.: Pit—Rotherby 205 or head office Melton 2488.) All grades washed aggregate and sand, transit mixed concrete.

## LINCOLNSHIRE

**CONINGSBY SUPPLY CO., LTD.**, Registered Office: The Broadway, Woodhall Spa, Lincs. (Tel.: Woodhall Spa 2322.) Screened limestone, hardcore, pitching, filling, flint, hoggin. Ex quarries or delivered.

**DOW-MAC (PRODUCTS), LTD.**, Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

**EAST MIDLANDS BUILDERS' SUPPLY CO.**, 21 Castle-dyke West, Barton-on-Humber, Lincs. (Tel.: Barton 2189.) All grades washed sand and gravel, roadstone, hardcore, washed silica sand.

**GIBBONS, F. B., AND SONS, LTD.**, Registered Office: 2 Welby House, Market Deeping, near Peterborough. (Tel.: Market Deeping 3321/2303.) Pits at Langtoft, near Peterborough. (Tel.: Market Deeping 2210.) All grades washed sand and aggregate.

**HARTSHOLME GRAVEL AND SAND CO., LTD.**, Hartsholme Wood, Doddington Road, Lincoln. Sole selling agents: Hartsholme Sales, Ltd., 17 West Parade, Lincoln. (Tel.: Lincoln 23391.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**PETERBOROUGH QUARRIES, LTD.**, Sandylands, Masey, Peterborough. (Tel.: Market Deeping 2356—3 lines.) Quarry at Rostley, all grades of hardcore and broken stone. (See also Northants.)

**POLLARD, C., AND SON (TALLINGTON), LTD.**, Walk House, Langtoft, Peterborough. Pits at Tallington, near Stamford, Lincs. (Tel.: Market Deeping 2140.) All grades washed sand and aggregates. For "Supercrete" ready mixed concrete, phone Market Deeping 3132.

**TRENTFORD GRAVELS, LTD.**, Head Office: Deansgrove, Grimsby. (Tel.: Grimsby 5354.) Washed and graded gravel and sand, roadstone, hardcore, slag, tarmac, ashes, etc. Pits and quarries throughout the county.

## LONDON

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leeds.)

**BUCKBRICKS COMPANY, LTD.**, 57 Piazza Chambers, Covent Garden, London, W.C.2. (Tel.: Covent Garden 0534.) All grades of washed aggregates, sand, building sand, asphalt, grit. Sterilised dry sand, delivered accurately to buyers' requirements.

**COX, H., AND SONS, LTD.**, 33 Southampton Way, Camberwell, S.E.5. (Tel.: Rodney 253—3 lines.)

**DANGERFIELD, F. J., AND CO., LTD.**, 261A Finchley Road, N.W.3. (Tel.: HAMstead 8044-8.) Granite limestone or slag, coated or dry, all sizes and gradings, granite kerb and setts, felspar quartz and other minerals by road or rail, or ex London stock.

**DORSET LIMESTONES, LTD.**, Bumpers Lane, Easton, Portland, Dorset. (Tel.: Portland 2207/8.) (For details, see Dorset.)

**DRINKWATER, W. W. (WILLESDEN), LTD.**, Dudden Hill Lane, Willesden, N.W.10. (Tel.: GLAdstone 6400/5.) Pits: Rush Green, Denham, Bucks. (Tel.: Denham 2241/2/3.) Also Staines Road, Hounslow Heath, Middlesex. (Tel.: Hounslow 6222/3.)

**GABRIEL, C., LTD.**, Palmers Lane, Enfield, Middx. (Tel.: HOWard 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

**GREENHAM SAND AND BALLAST CO., LTD.**, Chertsey Road, Feltham. (Tel.: Feltham 2285/7.) Pits at Hounslow, Feltham and Staines. Concrete aggregates, plastering and building sand.

**HALL AND CO., LTD.**, Chantry House, Eccleston Street, S.W.1. (Tel.: Sloane 7122), and at Earl Doonagh, Wandsworth, London. Gravel aggregates, concrete, plastering and building sand.

**HARTIGAN, G. F. X., LTD.**, Washed sharp sand to B.S. 882. (See Buckinghamshire.)

**KEEN, W. J., AND SONS**, 18 Granville Road, Epping. (Tel.: Epping 2520.) All ballast, sand, shingle and hardcore supplied.

**LONDON BALLAST CO., LTD.** (Tel.: Paddington 5064.) 155A Porchester Terrace North, Paddington, W.2.

**READ, P. T., LTD.**, Gales Gardens, Bethnal Green, E.2. (Tel.: Shoreditch 9128/9.) All sands, ballast and shingles supplied and delivered; also ready mixed concrete. Pits: Fairlop Airfield, Forest Road, Hainault, Essex. (Tel.: Hounslow 6222/3.)

**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

## MERIONETHSHIRE

**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington (Tel. 961), Salop.

## MIDDLESEX

**CROSS, GEO. C., AND CO., LTD.**, Uxbridge Road, Southall. (Tel.: Southall 2264/5/6.) Concrete aggregates, hardcore, excavations, demolition.

**DRINKWATER, W. W. (WILLESDEN), LTD.**, Steam Road, Hounslow Hn., Middx. (Hounslow 6222/3.)

**GABRIEL, C., LTD.**, Palmers Lane, Enfield, Middx. (Tel.: HOWard 4351/2/3.) Washed aggregates and building sand. Pits at Enfield and Hertford.

**GREENHAM SAND AND BALLAST CO., LTD.**, Chertsey Road, Feltham. (Tel.: Feltham 2285/7.) Pits at Hounslow, Feltham and Staines. Concrete aggregates, plastering and building sand.

**GRUNDON, S.**, 100/104 Harrington Road, Hillingdon, Middlesex. (Tel.: Uxbridge 36511/2/3.) S24 ballast, shingle, hardcore, ashes, excavations and demolition.

**HALL AND CO., LTD.**, Chantry House, Eccleston Street, S.W.1. (Tel.: Sloane 7122), and at Earl Doonagh, Wandsworth, London. Gravel aggregates, concrete, plastering and building sand.

**LONDON BALLAST CO., LTD.** (Tel.: Paddington 5064.) 155A Porchester Terrace North, Paddington, W.2.

**TWICKENHAM GRAVEL CO., LTD.**, Feltham Hill Road, Hanworth. (Tel.: Feltham 2285/7.)

**READ, P. T., LTD.**, Gales Gardens, Bethnal Green, E.2. (Tel.: Shoreditch 9128/9.) All sands, ballast and shingles supplied and delivered; also ready mixed concrete. Pits: Edmondton Gravel, Forest Road, Hainault, Essex. (Tel.: Hounslow 6222/3.) and Fairlop Airfield, Forest Road, Hainault 6111/2.)

**STUART MACEY, LTD.**, Gordon Rd., High Wycombe. (Tel.: High Wycombe 2891/2.)

# CONTRACTORS' GUIDE TO AGGREGATES

## MID-WALES

**BENGRY AND SONS, LTD.**, Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

**OLD RADNOR TRADING CO., LTD.**, Quarries in Radnorshire. (Tel.: Kingston 421.) (See Herefordshire.)

**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington. (Tel. 961), Salop.

**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

## MONMOUTHSHIRE

**MONMOUTHSHIRE ASSOCIATED QUARRIES, LTD.**, Head Office: 38 Chestnut Road, Newport, Mon. (Tel.: Newport 50311/2.) Suppliers of all grades of concrete aggregates, road metal, pitching stone, tarmac and bituminous macadam in limestone, dolomite and blue pennant stone. Quarries throughout the county.

**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

**WHITECLIFF QUARRIES AND BRICKWORKS, LTD.**, Cinderford, Glos. (Tel. 3158/9.) (See Gloucestershire.)

## MONTGOMERYSHIRE

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington. (Tel. 961), Salop.

## NORFOLK

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

**JOHNSON, P. C. H., LTD.**, Station Road, Terrington St. Clement, near King's Lynn. (Tel.: Terrington St. Clement 260.) Washed and screened gravel roadstone, washed sharp and fine sands.

**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4 and Convey Winton 12.) Pits at St. Ives and Knettishall. (See Hunts.)

**SHETTERTON STONE QUARRIES, LTD.**, Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamstead 1208/9.) Pits at Shetterton. Concrete aggregates, building sand, hardcore, etc.

**HOWE GRAYEL PITS, LTD.**, Harvey Lane, Norwich. (Tel.: Norwich 33243/4.) Washed and graded aggregates, stone and gravel delivered to all parts of Norfolk and Suffolk.

## NORTHAMPTONSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

**MCISTER STONE CO., LTD.**, Stratton Audley Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmac, dry, pitching stone, hardcore, etc.

**RAYBROOK, E. W., LTD.**, Newton Road, Higham Ferrers, Northants. (Tel.: Rushden 3344 and 3345.) All grades of washed and graded aggregates to B.S.S. building sand, hardcore.

**DOW-MAC (PRODUCTS), LTD.**, Tallington, Stamford. All grades of washed sand and gravel. (Tel.: Market Deeping 2301.)

**DUSTON STONE QUARRIES, LTD.**, New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) Producers of building and walling stone roadstone, hardcore, broken stone, ashes, sand, gravel and hoggin. Immediate delivery throughout Northamptonshire.

**FERRERS AND AGGREGATES, LTD.**, Northampton Road Quarries, Rushden, Northants. (Tel.: Rushden 3354/5.) Largest producers in the county of all grades of high-quality concrete aggregate to B.S.S. Delivers throughout Northamptonshire and adjoining counties.

**GIBBONS, F. B. AND SONS, LTD.**, Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/233.) (See Lincolnshire for details.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**KETTON STONE CO. (Prop. Andrew's Garage), Ketton**, near Stamford. (Tel.: Ketton 208.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.

**HACKNESS, A. J., LTD.**, Ransome Road, Northampton. (Tel.: Northampton 589.) Producers of all grades of washed aggregates. Building sand, Milmortar (lime-sand mortar). Prompt deliveries.

**NINE BARGE AND LIGHTER CO., LTD.**, Market Chambers, Peterborough. (Tel. 5534/5.) and Ship End Quarries, Wansford, near Peterborough. (Tel.: Wansford 384/5.) Roadstone, hardcore, broken stone, ballast, ashes, silica clay and sand.

**NIWARK (PETERBOROUGH) SAND AND GRAVEL CO., LTD.**, 127 Eastfield Road, Peterborough. (Tel.: Peterborough 2091.) All grades washed and screened gravel and sand.

**PETERBOROUGH QUARRIES, LTD.**, Sandylands, Maxey, Peterborough. (Tel.: Market Deeping 2355.) Eight quarries supplying all grades of hardcore and broken stone. Also Wetmix at Yarwell, Wansford. All grades gravel and sand at Maxey.

**POLLARD, C. AND SON (TALLINGTON), LTD.**, Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

**STORTON, F. E., LTD.**, Weedon Road, Northampton. (Tel.: Northampton 335.) Producers of washed gravel and sand to B.S.S.

## NORTH WALES

**CAWOOD, WHARTON AND CO., LTD.**, Pistyll Gwyn Quarry, Llanarmon, near Mold. (Tel.: Llanarmon-via-lal 43.) Crushed limestone and tarmac macadam, all grades.

## NORTH WALES

**CHESHIRE AND NORTH WALES TARRD MACADAM CO., LTD.**, Llanarmon, near Mold. (Tel.: Llanarmon-via-lal 43.) Hard, broken limestone; dry and coated to B.S.S. Inquiries to Registered Office—Market Chambers, Tower Square, Tunstall, Stoke-on-Trent. (Tel.: Stoke-on-Trent 8009/4.)

**ENSTON BROS.**, Llynvyn Isaf Quarry, Clynogllawr, Caernarvon. (Tel.: Clynogllawr 297/8.) All sizes crushed, washed natural sand and gravel. Highest quality. Precast concrete products, ex our Griffiths Crossing Factory, Caernarvon. (Tel.: Caernarvon 2335/6.) Crushed granite ex our quarry, Pengwern and Gwydyr Quarries, Ltd., Llanrwst, Denbighshire. (Llanrwst 38.)

**GWALCHMAI GRANITE QUARRY, Anglesey, Proprietors: The North Wales Construction Co., Ltd.** (Tel.: Gwalchmai 292.) All sizes dry and coated granite materials, hardcore, filling, ready mixed concrete, etc.

**PENMAENMAWR AND WELSH GRANITE CO., LTD.**, Quarries at Penmaenmawr. (Tel. 2256/8), and at Trevor. (Tel.: Clynogllawr 297/8.) Caernarvonshire. All sizes and gradings of crushed granite aggregate. Any quantity per day: immediate delivery ex stock. Coated granite also available.

**RUTHIN AND DENBIGH TARMACADAM CO., LTD.** (a member of the Lunt, Conley and Pitt Group), Denbigh. (Tel.: Denbigh 75.) Lime, limestone, carbonate of lime, tarmac, etc. Also inquiries to Lunt Bros. Ltd., Gazette Buildings, 168 Corporation Street, Birmingham. (Tel.: Central 7408), and Lunt Bros. Ltd., Stourbridge. (Tel. 5201—8 lines.)

**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffs. for details.)

## NOTTINGHAMSHIRE

**AIZLEWOOD, DOUGLAS E.**, Bow Bridge, Rotherham. (Tel.: Rotherham 2622.) Crushed and graded limestone: all grades of washed gravel and sand.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

**GLEN QUARRIES, LTD.**, Central Chambers, Wellgate, Rotherham. (Tel.: Rotherham 323.) Crushed and graded stone, concrete sand, building sand, plastering sand and crushed gravel; could be collected ex quarry or delivered.

**GUTHORPE GRAVELS (1958), LTD.** (Tel.: Nottingham 77357; and Works: Lowdham 2131.) (An associate company of T. C. Campbell, Ltd.) All grades washed gravel and sand to B.S.S.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) Quarries at Hoveringham, Holme Pierrepont, Colwick, Bleasby and Newark. Other quarries throughout the county—deliveries in 21 counties. All grades of washed gravel and sand to any specification. Crushed quartzite for surface dressing of roads a speciality. Combined plant capacity 20,000 tons per day.

**NEWARK GRAVEL AND CONCRETE CO., LTD.**, Grove St., New Balderton, Newark, Notts. (Tel.: Newark 401.) All grades washed sand and aggregates.

**NORTH NOTTS. GRAVEL CO., LTD.**, Bellmoor, Retford, Notts. (See Yorkshire.)

**SALISBURY AND WOOD, LTD.**, Matlock. (Tel.: 272/273.) (For details, see Derbyshire.)

## OXFORDSHIRE

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

**BENGRY AND SONS, LTD.**, Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**BICESTER STONE CO., LTD.**, Stratton Audley, Bicester, Oxon. (Tel.: Stratton Audley 391/2.) Manufacturers and suppliers of all grades limestone, tarmac, dry, pitching stone, hardcore, etc.

**CURTIS, J. AND SONS, LTD.**, Botley Works, Oxford. (Tel.: Oxford 41081/2/3.) Sand and all grades of washed aggregates. Pits at Radley, near Abingdon. (Tel.: Abingdon 441.)

**DANGERFIELD, F. J. AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMSTEAD 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**DUSTON STONE QUARRIES, LTD.**, New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) (See Northamptonshire.)

**GRUNDON, S. (EWELEME), LTD.**, Eweleme, Oxon. (Tel.: Eweleme 20 and 37.) London Office (Tel.: Uxbridge 36511/2/3.) All grades washed aggregates. Path hoggin, broken stone, building sand.

**HALL AND CO., LTD.**, Cardiff Road, Reading. (Tel. 50458.)

**HAINES, H. (WITNEY), LTD.**, Oxford Road, Witney. (Tel.: Witney 42.) All grades washed aggregates, hardcore, pitching and broken stone, Cotswold building and walling stone.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**SHETTERTON STONE QUARRIES, LTD.**, Pix Farm Lane, Hemel Hempstead, Herts. (Tel.: Berkhamstead 1208/9.) Roadstone, Cotswold building and walling stone.

## RADNORSHIRE

**BENGRY AND SONS, LTD.**, Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**CLEE HILL TRANSPORT AND ROLLING CO., LTD.**, Ludlow, Salop. (Tel.: Cleehillstone 284.) (See Shrops.)

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

**OLD RADNOR TRADING CO., LTD.**, Quarries in Radnorshire. (Tel.: Kingston 421.) (See Herefordshire.)

**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington. (Tel. 961), Salop.

## RUTLAND

**GIBBONS, F. B. AND SONS, LTD.**, Welby House, Market Deeping, Peterborough. (Tel.: Market Deeping 3321/233.) (See Lincolnshire for details.)

## RUTLAND

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**KETTON STONE CO. (Prop. Andrew's Garage), Ketton**, near Stamford. (Tel.: Ketton 208.) Hardcore, roadstone, crushed stone, top soil, silica clay. Quarries at Ketton.

**PETERBOROUGH QUARRIES, LTD.**, Sandylands, Maxey, Peterborough. (Tel.: Market Deeping 2355.) Quarry at Greetham, all grades of broken stone and hardcore. (See also Northamptonshire.)

**POLLARD, C. AND SON (TALLINGTON), LTD.**, Walk House, Langtoft, Peterborough. (Tel.: Market Deeping 2140.) (See Lincolnshire for details.)

## SHROPSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes: coated limestone to S.S. 802 and 1621 and wet-mix; large output; reliable deliveries.

**BENGRY AND SONS, LTD.**, Longmoor, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.) (See details under Herefordshire.)

**CLEE HILL TRANSPORT AND ROLLING CO., LTD.**, Ludlow, Salop. (Tel.: Cleehillstone 284.) Granite stone, tarmac, chippings, filter media, setts, limestone, crushed and walling stone, gravel, sand, hardcore and ashes.

**DORRINGTON SAND AND GRAVEL QUARRIES**, near Shrewsbury. (Tel.: Dorington 276.) Supply of ready mixed concrete, building sand, washed sand, washed and crushed gravel.

**DUNNING AND SON, LTD.**, Haughmond Quarry, near Shrewsbury. (Tel.: Upton Magna 286/7.) All grades of high-quality roadstone, concrete aggregates and coated macadam. All to B.S.S. Any tonnage available for immediate delivery.

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

**OLD RADNOR TRADING CO., LTD.**, Kingston. (Tel. 421.) (See Herefordshire.)

**SALOP SAND AND GRAVEL SUPPLY CO.**, Admaston, Wellington. (Tel. 961), Salop.

**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) (See Staffordshire for details.)

**TRENTHAM GRAVEL CO., LTD.**, Ledsley Quarries, Willoughbridge, near Market Drayton, Staffs. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concrete, plastering sand. Plant capacity: 2,000 tons per day.

## SOMERSET

**ASHAM QUARRY CO., LTD.**, Chantry, Frome. (Tel.: Nunney 351.) All sizes limestone block, broken and aggregates. Tarmac and bituminous macadam to B.S. Ex quarry and delivered.

**DANGERFIELD, F. J. AND CO., LTD.**, 216A Finchley Rd., London, N.W.3. (Tel.: HAMSTEAD 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**HALL AND CO., LTD.**, Longmoor House, Ashton Vale Road, Bristol, 3. (Tel. 63001.) Gravel aggregates, concreting, plastering and building sand.

**WAINWRIGHT, JOHN, AND CO., LTD.**, Shepton Mallet, Wilt. (Tel.: Shepton Mallet 272.) Basalt, coated basalt, concrete aggregates, filtering media, building blocks and slabs.

## SOUTH SCOTLAND

**ESK MANUFACTURING CO., LTD.**, Carlisle. (Tel.: Carlisle 2-4941.) (For details see Cumberland.)

## SOUTH WALES

**HALL AND CO., LTD.**, 34 High Street, Narberth. (Tel. 74.)

**PENMAENMAWR AND WELSH GRANITE CO., LTD.**, 18 Quay Street, Cardiff. (Tel.: 20848/7.) All sizes and gradings of crushed granite aggregate from our Cardiff and Swansea Dock Depots. Dolomite aggregates from Ewenny Quarry, Bridgend. (Tel.: Bridgend 3786.) Coated stone also available.

**SESSIONS AND SONS, LTD.**, West Dock, Cardiff. Producers of coarse and fine aggregate, dredged and graded to British Standards. Branches Newport and Swansea. (Also Gloucester and Hereford.)

**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

**SOUTH WALES SAND AND GRAVEL CO., LTD.**, Head Office: P.O. Box 8, Beaufort Buildings, Swansea. (Tel.: Swansea 53071.) Sand and gravel merchants, builders' merchants. Pennant Quarry owners slag, hardcore, ashes, filling, graded clinker filter media. Depots: Cardiff, Newport, Barry, Port Talbot, Briton Ferry, Swansea, Llanelli.

## STAFFORDSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes: coated limestone to S.S. 802 and 1621 and wet-mix; large output; reliable deliveries.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: VIGILANT 2530.) (For details, see Leics.)

**CROXEN GRAVEL, LTD.**, Cheshire, Stoke-on-Trent, Staffs. (Tel.: Yeon 93.) Manchester Office: Blackfriars 3766/7. Plant capacity 2,000 tons per day.

**DUNNING AND SON, LTD.**, Wood End Gravel Pits, Hednesford, Stafford. (Tel.: Hednesford 302/325.) Washed sand and gravel. All to B.S.S. High-quality roadstone, concrete aggregates and coated macadam from our Haughmond Quarry, near Shrewsbury. (See Shropshire.)

**HILTON GRAVEL, LTD.**, Cheshire, Staffs. (Tel.: Yeon 241.) Also at: Longton, Stoke-on-Trent. (Tel.: Longton 21198; and Stratton, Burton-on-Trent. (Tel.: Burton 8081.)



# CONTRACTORS' GUIDE TO AGGREGATES

## STAFFORDSHIRE

**MULLAND GRAVEL CO., LTD.**, Cheadle, Stoke-on-Trent. (Tel.: Cheadle 2323/4, 2119 and 2195.) Manchester Office: 464 Wilbraham Road, Chorlton, Manchester, 21. (Tel.: Chorlton 2274/5.)

**KEVIN LIME CO., LTD.**, Oakmoor, Staffs. (Tel.: Oakmoor 385/386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.

**RUGELEY GRAVEL CO., LTD.**, Rugeley Quarries, Rugeley, Staffs. (Tel.: Rugeley 251/2.) Entirely modern plant. Sand classifiers. Finest aggregates to B.S.S. Large output.

**SALISBURY AND WOOD, LTD.**, Matlock. (Tel.: 272/273.) (For details, see Derbyshire.)

**SHIRE OAK GRAVELS, LTD.**, Lichfield Road, Walsall Wood, Staffs. Washed crushed gravel and washed sand. (Tel.: Brownhills 3253.)

**TERN HILL SAND AND GRAVEL CO., LTD.**, Alington Quarries, near Market Drayton, Staffs. (Tel.: Hales 261/2/3.) Pit sand, concrete sand, and all grades of washed crushed gravel. Hardcore, clinkers, ashes and hoggins.

**TRENTHAM GRAVEL CO., LTD.**, Lordsley Quarries, Willoughbridge, near Market Drayton, Salop. (Tel.: Pipe Gate 304/5.) All sizes crushed or natural washed gravel. Twice washed sharp concreting sand. Plastering sand. Plant capacity 2,000 tons per day.

**WARDLOW LIMESTONE, LTD.**, Caudon Low, N. Staffs. (Tel.: Oakmoor 366.) Graded limestone for all purposes. Ground limestone.

**WINDMILL SAND AND GRAVEL QUARRIES, LTD.**, Cannock Road, Wolverhampton. (Tel.: 31108.) Concrete aggregates, plastering, building and asphalt sand. All to B.S.S.

## SUFFOLK

**ALRESFORD SAND AND BALLAST CO., LTD.**, Alresford Creek, near Colchester, Essex. (Tel.: Wivenhoe 341/494.) Suffolk area pits at Bures and Stoke-by-Nayland. All grades washed aggregate sand; also hoggins.

**BARDON HILL QUARRIES (ELLIS AND EVERARD), LTD.**, near Leicester. (Tel.: Coalville 1226/7/8; or London: Vigilant 2530.) (For details, see Leics.)

**DICKERSON, M. (CONTRACTORS), LTD.**, Gloucester Street, Cambridge. (Tel.: Cambridge 56973/4.) (See Cambs.)

**HALL AND CO., LTD.**, West End Road, Ipswich. (Tel.: Ipswich 55593/4.) Pits at Kesgrave and Homersfield, near Harleston. Gravel aggregates, concreting, plastering and building sand.

**MACLAREN BROS. (KENNETT), LTD.**, Station Road, Kennett, Cambs. (Kentford 333/4.) (See Cambs.)

**ST. IVES SAND AND GRAVEL CO., LTD.**, 22 The Broadway, St. Ives, Hunts. (Tel.: St. Ives 2441/2/3/4, Coney Weston 12 and Halstead 2325.) Pits at St. Ives, Knettishall, near Thetford, and Gosfield, near Halstead.

**THORPE GRAVEL PITS, LTD.**, Harvey Lane, Norwich. (Tel.: Norwich 33243/4.) (See Norfolk.)

**WEBB, G., CAMBRIDGE**, 35 Magrath Av., Cambridge. (Tel.: 59966, 53969, 50353 (night).) (See Cambs.)

## SURREY

**OFF, HARRY A., LTD.**, Buckhurst Hill, Chesham, Ascot, Berks. (Tel.: 1026/7.) (See Berkshire.)

**DANGERFIELD, F. J., AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**EASTWOODS SALES, LTD.**, Eastwood House, City Road, E.C.1. (Tel.: Clerkenwell 2040.) Longside Sand and Ballast Pit, Thorpe, nr. Egham. (Tel.: Egham 3121.) Runfold Sand and Ballast Pit, Runfold, nr. Farnham, Surrey. (Tel.: Runfold 2020.) Producers and distributors of all grades of washed aggregates.

**HALL AND CO., LTD.**, Victoria Wharf, Croydon. (Tel.: Croydon 4444.) Other main depots at Coulsdon, Epsom, Mitcham, Oxted, Purley, Redhill, Tadworth and Woking. Pits at Sand and Redhill. Gravel aggregates, concreting, plastering and building sand, Surecrete precast-mixed concrete.

**HARRIS, M. P., AND CO., LTD.**, Kingston Road, Leatherhead, Surrey. (Tel.: 3497.) (See Sussex.)

**IANES AND CO., LTD.**, 2C Buckingham Avenue, Slough. Sand, aggregates, hardcore, ashes, building & bulk excavation. (Tel.: Slough 20361/2/3.)

**LONDON BALLAST CO., LTD.** (Tel.: Paddington 5064), 155A Porchester Terrace North, Paddington, W.2.

## SURREY

**MARCO (AGGREGATES), LTD.**, Pit: Norlands Lane, Thorpe, near Egham. (Tel.: Chertsey 3401.) Producers and distributors of high-grade washed sand, shingle, ballast, etc.

**MARCO (CROYDON), LTD.**, Hampton Road, West Croydon. (Tel.: Thornton Heath 4236/7/8.) All building and road aggregates.

**TWICKENHAM GRAVEL CO., LTD.**, Government Road, Ash Vale. (Tel.: 2349.)

**WELLS, A. L., AND SON, LTD.**, Builders' Merchants, Garlands Road, Leatherhead. (Tel.: 3018/9.) Sand aggregates, hardcore, ashes, cement. Clinker block manufacturers.

**WINTON, WM. R., LTD.**, Sand, Woking. (Tel.: Ripley 2454/5.) All grades sand, shingle, ballast, hoggins and ashes. Clinker block manufacturers.

## SUSSEX

**AVANN, F.**, Cavendish Avenue, Eastbourne. (Tel.: 4969/70.) Washed and graded ballast, sand, bricks, breeze and concrete blocks, hardcore, clinker, tarmac, etc., supplied.

**HALL AND CO., LTD.**, 16 Chapel Road, Worthing. (Tel.: Worthing 7840.) Other main depots at Bexhill, Bognor, Crowborough, East Grinstead, Eastbourne, Horsham, Hove and Seaford. Pits at Washington, Crumblies, near Eastbourne, Chichester, Rye Harbour, Midhurst, Shoreham and Portslade. Gravel aggregates, concreting, plastering and building sand, Surecrete precast-mixed concrete.

**HARRIS, M. P., AND CO., LTD.**, West Station Goods Yard, Bexhill (Tel.: 61); Cavendish Place, Eastbourne (Tel.: 3800); Dominion Road, Worthing (Tel.: 6822); Whitbread Lane, Northiam (Tel.: 2211); Station Goods Yard, Haywards Heath (Tel.: 1750); Crawley Road, Horsham (Tel.: 3366); The Hornet, Chichester (Tel.: 4181). All grades aggregates, hardcore, clinker, ashes, etc.

**WRIGHT, C., AND SONS, (BTON), LTD.**, 19 Bristol Gardens, Brighton, 7. (Tel.: Brighton 63357 and 62406.) All-in ballast, washed and crushed shingle, sand, ashes, hardcore, chalk, bricks, etc.

## WARWICKSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621 and wet-mix; large output; reliable deliveries.

**DUSTON STONE QUARRIES, LTD.**, New Duston, Northampton. (Tel.: Brixworth 278 and 298; Duston 505.) (See Northamptonshire.)

**HALL AND CO., LTD.**, 188 Lichfield Road, Four Oaks, Sutton Coldfield. (Tel.: Four Oaks 356.) Gravel aggregates, concreting, plastering, building sand.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**JUDKINS, LTD.**, Granite Quarries, Tuttle Hill, Nuneaton. (Tel.: Nuneaton 3411—10 lines.) All sizes washed granite aggregate, farned and bituminous macadam. Slab mix a specialty.

**KEVIN LIME CO., LTD.**, Oakmoor, Staffs. (Tel.: Oakmoor 385/386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.

**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

**SHIRE OAK GRAVELS, LTD.** (See Staffordshire.)

**WARDLOW LIMESTONE, LTD.**, Caudon Low, N. Staffs. (Tel.: Oakmoor 366.) (For details, see Staffs.)

**WARWICKSHIRE QUARRIES, LTD.**, Bedworth Road, Nuneaton. (Tel.: Coventry 67821.) Red shale, screened for roads, car parks, sports grounds, tennis courts, etc., attractive colour.

## WESTMORLAND

**BROOMBYS, LTD.**, Sandisle, Milnthorpe, Westmorland. (Tel.: Milnthorpe 3251/2.) All grades washed crushed gravel sand, limestone, granite chippings, pitching, tarmacadam, rockery stone, etc.

**ESK MANUFACTURING CO., LTD.**, Carlisle. (Tel.: Carlisle 2-4941.) (For details, see Cumberland.)

## WILTSHIRE

**BULL BROS., S. AND L., LTD.**, 126A High Street, Winchester. (Tel.: 2264.) (See Hampshire.)

**COKE, T. F. (CHELTENHAM), LTD.**, 267 Gloucester Road, Cheltenham. (Tel.: 4717/4874.) (See Glos.)

## WILTSHIRE

**DANGERFIELD, F. J., AND CO., LTD.**, 261A Finchley Road, London, N.W.3. (Tel.: HAMstead 8044/8.) For all road aggregates, kerbs, setts. (See London.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**MOREYS (VERWOOD), LTD.**, Verwood, Wimborne, Dorset. (Tel.: Verwood 234.) Concrete aggregates, building sand, hoggins, path gravel.

**TAYMAC, LTD.**, Wootton Bassett, near Swindon, Wilts. (Tel.: Wootton Bassett 391—5 lines.) Cotswold stone, hardcore, washed and graded aggregates, building sand.

## WORCESTERSHIRE

**BALLIDON QUARRIES, LTD.**, Ballidon, near Ashbourne, Derbyshire. (Tel.: Parwich 201 and 202.) Clean and graded dry limestone to B.S.S., all sizes, coated limestone to B.S. 802 and 1621, and wet-mix; large output; reliable deliveries.

**BENGRIY AND SONS, LTD.**, Longmow, Kingsland, Leominster, Herefordshire. (Tel.: Kingsland 301/4.)

**CLEE HILL TRANSPORT AND ROLLING CO., LTD.**, Ludlow, Salop. (Cleehillstone 284.) (See Shrop.)

**DUNNING AND SON, LTD.** (See Shropshire.)

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**KEVIN LIME CO., LTD.**, Oakmoor, Staffs. (Tel.: Oakmoor 385/386.) Clean graded dry limestone, all to B.S.S. sizes. Output 1,000 tons per day.

**NASH ROCKS STONE AND LIME CO., LTD.**, Presteigne, Radnor. (Tel.: Presteigne 352.) (See Herefordshire for details.)

**OLD RADNOR TRADING CO., LTD.**, Kingston, Herefordshire. (See Herefordshire.)

**SHAKEMANTLE QUARRY CO., LTD.**, Cinderford, Glos. (Tel.: Cinderford 3197.) "Doura" Facing, Engineering and Common Bricks in terra-cotta, red and golden brown. (See Glos.)

## YORKSHIRE

**AIZLEWOOD, DOUGLAS E.**, Bow Bridge, Rotherham. (Tel.: Rotherham 2622.) Crushed and graded limestone: all grades of washed gravel and sand.

**DENNIFORTH, ALAN S., LTD.**, Kiveton Park, nr. Sheffield. (Tel.: Kiveton 446/7/8.) Truck-mixed and pre-mixed concrete, washed and crushed gravel, concreting sand, bldg. sand, crushed and graded stone.

**GLEN QUARRIES, LTD.**, Central Chambers, Wellgate, Rotherham. (Tel.: Rotherham 5223.) Crushed and graded stone, concreting sand, building sand, plastering sand and crushed gravel could be collected ex quarry or delivered.

**HOVERINGHAM GRAVELS, LTD.**, Hoveringham, Nottingham. (Tel.: Lowdham 3171—15 lines.) (For details, see Nottinghamshire.)

**NORTH NOTTS. GRAVEL CO., LTD.**, Bellmoor, Retford, Notts. (Tel.: Retford 2219—3 lines.) Concrete aggregates and sands, quartzite chippings, building sands. Quarries at Bellmoor and Lound, near Retford and Workson. Truck-mixed concrete plants at Retford and Workson.

**NOTTS., OSSETT, YORKS., AND WATH-ON-DEARNE, YORKS.**

**SALISBURY AND WOOD, LTD.**, Matlock. (Tel.: 272/273.) (For details, see Derbyshire.)

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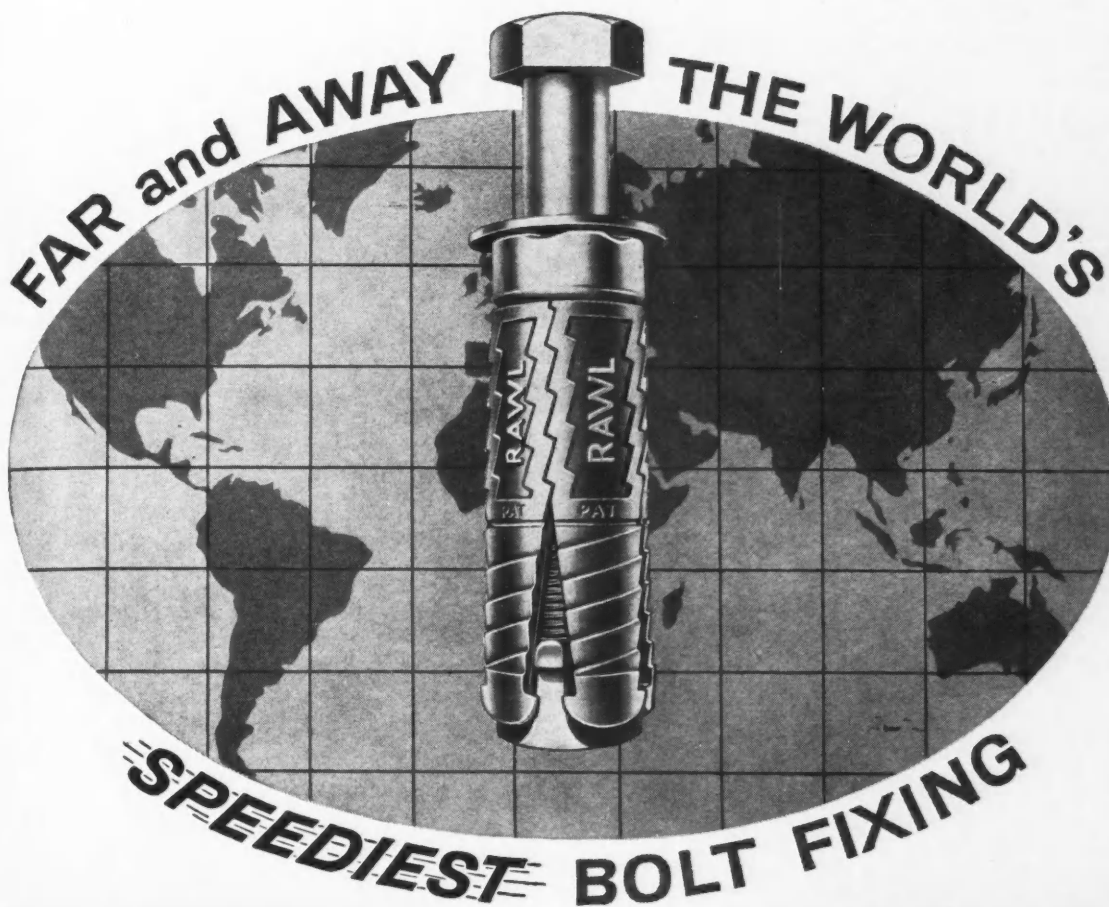
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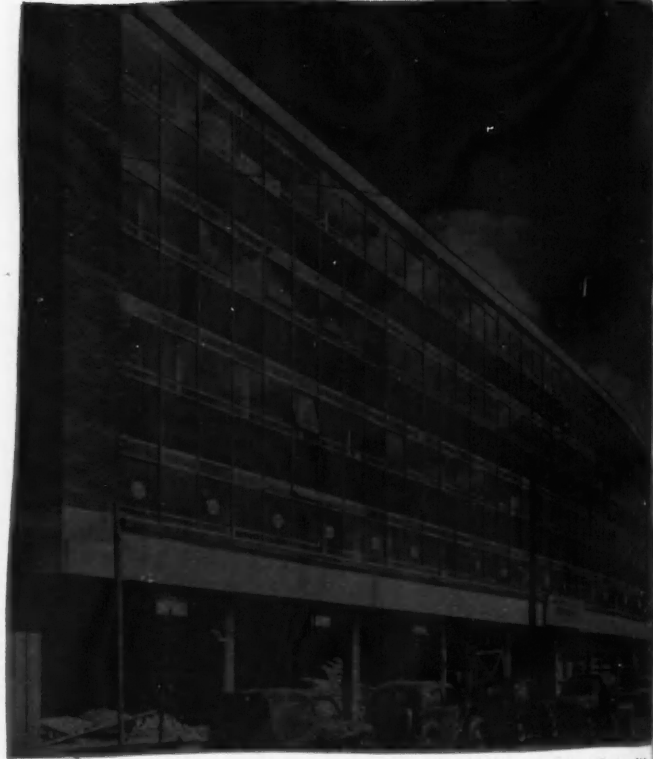
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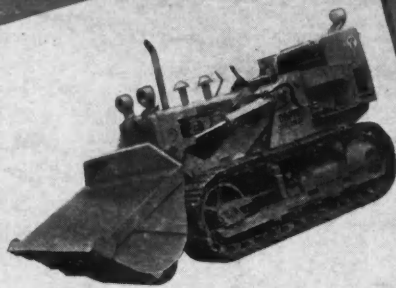
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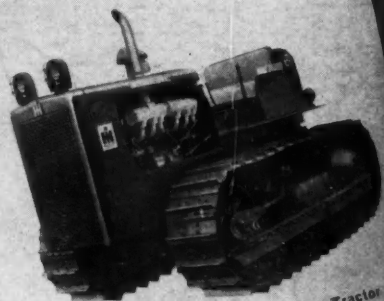
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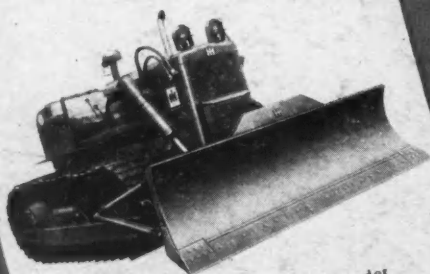
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